The Builder.

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Vauxhall Bridge Again.

THE question of the design of Vauxhall Bridge has entered upon a new phase, the reasons for which are stated in a Report of the Bridges Committee of the London County Council, dated October 29.

The preamble of this Report sets forth that "after the passing of the Vauxhall Bridge Act some three years elapsed before the contract for the demolition of the old structure and partial construction of the new piers and abutments was let to Messrs. Pethick. The Council will remember that the proposal in 1897 was to construct a five-arched steel bridge with granite-faced piers and abutments, but that when the sketch was submitted it was rejected upon the grounds that it did not possess those features which it was thought a crossing of such importance should exhibit. Some eighteen months later, as the result of much deliberation, a design was submitted and adopted by the Council, showing a granite bridge backed with concrete which not only had an appearance of stability and massiveness but which, it was believed, gave general satisfaction." We think most of our readers will agree with us that this statement is one of the coolest assertions — a mild expression indeed to use about it — that has ever been heard of, and shows how utterly incorrigible the Bridges Committee are in their defiance of public criticism. The fact that the design in question raised a storm of disapprobation in the architectural and artistic world, and that the Institute of Architects took the matter up seriously and appointed a committee to confer with the London County Council and endeavour (in vain) to expound to them the defects and the æsthetic clumsiness of the design of their engineer, is as absolutely ignored as if it had never happened. The Report proceeds to state that circumstances have arisen which, they regret to find, will compel the Council to revert to its original conception and build a steel bridge with stone piers. For "stone" we presume we may read "granite."

The reasons for this change are clearly and fully given, and as far as the powers of the Council go we must admit that they seem conclusive. By the Vauxhall Bridge Act the County Council are practically in the hands of the Thames Conservancy, who care for nothing whatever in connexion with the bridge except the maintenance of the waterway and the headway; and the Act gives them power to insist that at all times "*during the construction* of the new Vauxhall Bridge" there shall be a maintenance of at least three openings having a clear waterway of 70 ft. in width, and "one of such openings having a clear headway of 18 ft. and the others of such openings having respectively clear headways of 15 ft. above Trinity high water mark." We may again quote the Report :—

"In 1898, when a concrete bridge was substituted for the original form of construction, it was pointed out that the headway of the arches, owing to the centreing required for the support of the concrete arch during construction, would have to be temporarily reduced, and a clause authorising the lowering was accordingly inserted in the General Powers Bill of that session, but was subsequently withdrawn, as it was represented to us that a method of construction had been discovered which would obviate the temporary headways at the centre of the arches being less than the prescribed 18 ft. and 15 ft. Accordingly, in the following year, a scheme for carrying out the work, showing headways respectively of 18 ft. and 15 ft. at the centre of the openings and lessening on each side towards the piers, was submitted to the Thames Conservancy Board and received general approval."

When, however, an action was brought by the Thames Conservancy against the contractor in respect of an accident to a steamtug, which it was alleged resulted from the required waterway of 70 ft. not having been maintained, it was found that the contractor had been guilty of "legal negligence" in not maintaining the waterway at the stipulated width, and it also appeared that he might under the same Act be charged with "legal negligence" if the headways required were not maintained for the full width of the opening, during construction. This appears to us to be a most unreasonable demand, but there seems to be no doubt that the power to enforce it has been conferred on the Conservancy, and one cannot therefore be surprised that the County Council decided to act so as to avoid running their heads against the law. But the engineer has now reported that he cannot carry out the concrete arch so as to allow of this. To obtain the required depth for centreing, and at the same time give the clear headway, would necessitate the arch of the bridge being raised 6 ft., the maximum upward deviation allowed by the Act being only 3 ft. The engineer further pointed out that in the construction of a concrete bridge the centres must be much more solid and less liable to movement than in the case of a stone bridge (which is perfectly comprehensible), and for this reason the permissible upward deviation is insufficient to give room for the satisfactory centreing of a concrete arch. If this were obtained, the gradient would have to be altered from 1 in 40 to 1 in 32·5, "which we consider excessive." It is more than is desirable, but there are plenty of streets with large traffic, in London, which must be at a heavier gradient than that; we have not the figures at hand, but we should think it must be so. However, the maintenance of an easy gradient is a very important point, and we cannot blame the Bridges Committee for giving full weight to this consideration.

It seems rather odd that all this was not discovered earlier; at all events the requirements of the centreing for a concrete arch, as compared with a stone one, must surely have been worked out and known at an earlier date. We rather question whether all the reasons have been given. Informally, and in conversation, we heard the other day at the County Council office that the engineer considered that the London clay, on which the foundations of the piers rest, is not at that point of a consistency to be quite relied on for carrying the weight involved in the use of concrete and granite arches, and that the return to steel girders was to be made mainly, or to a great extent, on that account, in order to lessen the weight on the foundations. If this is the case—and we had it on very good authority—we cannot understand why that reason should not have been embodied in the Report of the Bridges Committee, seeing that in fact it is a better reason for the alteration than any of those stated in the Report; and is indeed, if true, unanswerable. There is a passing reference to the desirability of lessening the weight on the foundations, in a subsequent passage in

the Report, but there is no reference to it as a main reason for the alteration from the originally adopted scheme.

The Report proceeds to say that the erection of a steel bridge faced with granite had been carefully considered, but had been abandoned from the difficulty of tying the two materials together and meeting the effects of unequal expansion, and from considerations of extra cost and weight. We are very glad to hear that it is abandoned, for a much better reason than any of those given, viz.: that such a bridge would be a mere structural sham. If we are to have the steel, let us have it honestly and visibly.

The bridge now therefore returns to the form of a superstructure of steel with granite piers; and the whole question, from the æsthetic point of view, turns on the treatment of the details. The Committee have had hung in the Council-room a drawing of what they consider the "most satisfactory" design for a bridge wholly constructed of steel with elliptical arches and with "ornamental facings." These last words are ominous; we know too well what that means in the hands of a bridge engineer. The design as far as can be judged from the drawing shows a generally graceful line in the arches—that can hardly be helped; but in other respects it is enough to fill one with consternation. It has indeed the merit of being less pretentious than Sir A. Binnie's design; but that is all that can be said. It is absolutely commonplace. The faces of the piers are square masses with immense panels on them; the spandrels of the steel arches are filled with an enormous coarse tracery—foliated circles and pointed panels of the kind found, on a small scale, in the spandrels in debased Gothic work; poor enough on a small scale, but positively offensive as a treatment of iron ornament on a large scale. If such a design were proposed for a bridge over the Seine, the Paris authorities would resolutely refuse their sanction to it, and would be exposed to public obloquy if they did not: but anything is good enough for a bridge over the Thames. It may possibly be that this drawing shows only the general crude conception of the structural system, and that it is not final as to its decorative appearance. We sincerely hope this may be the case. But if Vauxhall Bridge is erected on the design as indicated in this drawing, one more will be added to the series of coarse and vulgar-looking erections by which recent engineers have been allowed to disfigure the Thames and the city through which it flows.

PROPOSED LIFE-SAVING AMENDMENTS TO THE BUILDING ACT.

THE agenda paper for this week's meeting of the London County Council bristled with matters relating to fire protection, for it contained the Report of the Fire Brigade Committee on the Queen Victoria-street fire, with which we have already dealt; it contained some remarks as to the dangers of *culs de sac* in the City of London; and, lastly, it contained a very important Report (printed in full on another page), signed by Dr. Longstaff on behalf of the Building Act Committee, dealing with proposed amendments to the Building Act.

The redeeming feature of the Fire Brigade Committee's Report, which, as we have mentioned before, was so unsatisfactory so far as the Fire Brigade was concerned, was its proposal to make the London Building Act of 1894 retrospective as regards the provision of means of escape from high buildings. This was the identical recommendation of the Coroner's jury on the Queen Victoria-street fire, and, we should perhaps add, that it was the British Fire Prevention Committee that originally put forward this important principle in a letter appearing in our columns in June last.

The Building Act Committee has adopted this same policy of a retrospective Building Act, so far as safety of life is concerned, in a very thorough-going manner, and Dr. Longstaff—the able chairman of this committee—is to be congratulated on the practical character of his committee's recommendations and the terse way in which they have been put forward. It is to he hoped that this gentleman will remain in office another year, until the matters he has brought forward become law.

Summarised, the proposals of Dr. Longstaff's Committee comprise a reduction in the height above which the provision of special means of escape can be required in the case of new buildings (not being factories and workshops coming within the provisions of Section 14 of the Factory and Workshops Act of 1901 or common lodging-houses coming within the Common Lodging-Houses Act), and, after a certain date, the application of similar provisions to existing buildings. Further, the provision of means of escape from new, and after a certain date, existing buildings (not being factories or workshops coming within the provisions of the same Section 14 or common lodging-houses coming within the same Common Lodging Houses Act) in which a considerable number of persons are employed, or in which sleeping accommodation is provided for a considerable number. Again, the proposals include additional powers in regard to premises used in part for the purposes of trade or manufacture, and in part as dwelling-houses, especially where the part used for trade projects from the front of the building, as, for instance, in a one-story shop. Lastly, the powers proposed are to include the regulation of the use of the dangerous match boarding and panelling as an internal finishing to walls, and also to regulate the question of enclosing lifts in buildings.

All the above proposals, as will be observed, relate solely to the question of rapid exit and safety of life from fire, as distinct from any question of structural limitation of the spread of fire or structural prevention of causes of fire. In other words, these proposals might be termed "life-saving amendments" to the Building Act, and should hence not be confused with any of the questions of primary principles relating to the construction of buildings as regards fire.

There can be no question that the whole of the proposals put forward by the Building Act Committee must be endorsed by the professions concerned, and although we foresee that in many cases there will be a hardship individually on the existing vested interests, the importance of these primary conditions for the safety of life in buildings of the Metropolis cannot be underrated, and the pocket of the individual owner must naturally suffer for the common weal.

We quite understand that the proposals are urgent proposals—proposals which should have already been embodied in the Building Act of 1894, and which could well have been embodied any year since the great Cripplegate fire of 1897 so clearly showed the general public of London the necessity of carefully guarding against fire. It is for this reason of urgency that we will also say nothing against the advisability of pushing forward with the proposed amendments as fast as possible and putting them before Parliament next Session, although we should naturally have preferred to have seen at the same time proposals for many other amendments to the Building Act which would relate to preventing the spread of fire.

It is common knowledge that there is much in the Building Act that requires amendment, so far as the structure of buildings is concerned, and the prevention of the spread of fire. The Cripplegate fire, which we have just mentioned, not to speak of the Barbican fire, are examples in this direction. A well-considered Amendment Act embracing all questions of the spread of fire, as well as the question of the safety of life, would have been preferable, and it might even have been advisable to devote more leisure to so serious a question now that it has at last been energetically brought forward by the authorities. For instance, amendments to the Building Act embracing an entire revision of the schedule of fire-resisting materials would have been of an enormous advantage to the community. It might have been well to have embodied in these amendments the result of the systematic series of fire tests which is being conducted at the present moment with fire-resisting materials and systems of construction. It would have been well to have dealt with the question of openings in floors and partitions; with the question of fire-resisting doors, and the manner in which they are fixed and bolted; with the question of glazing and shutter-protection to small area windows; with that of the protection of structural ironwork by concrete or otherwise; of the separation of tenements or flats in large buildings; and again, with the entirely neglected question of the substantiality and strength of internal walls in buildings.

But we suppose we must be thankful for small mercies; and if we get in 1903 certain "life-saving amendments" to the Building Act, it is at least a step in the right direction, and we may be left until 1904 to propose the structural amendments. At all events, we trust that the County Council in this instance will have the hearty co-operation of the architectural profession and the surveyors of London, and that the vested interests will not show that egotism with which they did so much to spoil the Building Act of 1894. We would, however, take the opportunity of pointing out to the County Council the necessity of obtaining the active co-operation of the great professional bodies and the Fire Prevention Committee and the Chamber of Commerce in the early stages of the draft, so that we may not have the Building Act amendments so maimed and distorted as is frequently the case where Technical Bills are before Parliament and the different interests naturally have to appear.

We hear that the Home Office will support the London County Council in its

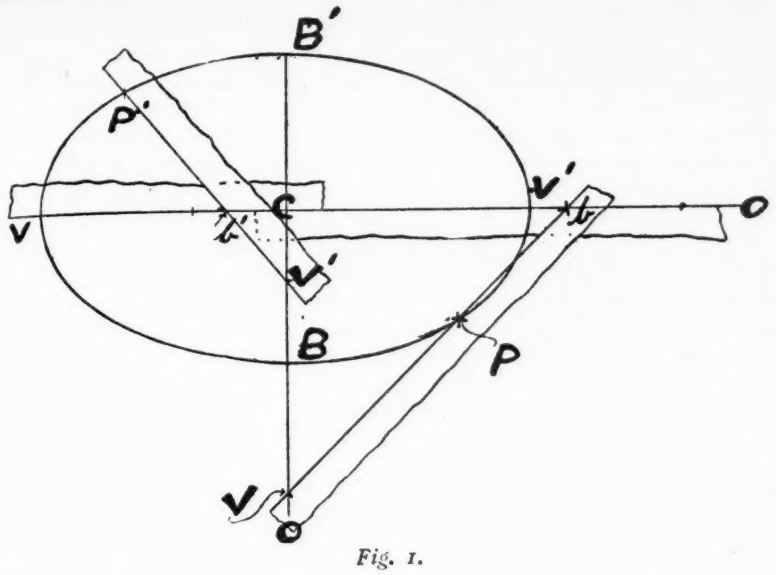

Fig. 1.

but the distance CB may be marked as the other side of P, *i.e*, be deducted from the semi-major axis. In this case the *difference* of the two semi-axes (represented on the rod by V^1b^1) must be kept to the axial lines during the motion of the rod, when P^1 will trace out the ellipse. This is illustrated in the upper part of the figure.

The latter method is perhaps the most popular with mechanics, but in drawing ellipses having axes of nearly equal measure, and in all cases when the ellipse is small, the first method should be employed, as greater accuracy can be obtained by it than by the latter.

The first definition here given supplies the following construction :—

Fig. 2: Make $B^1S + B^1S^1 = VC$, then SS^1 are the "foci." Insert pins at the points SB^1 and S^1, stretch a line around

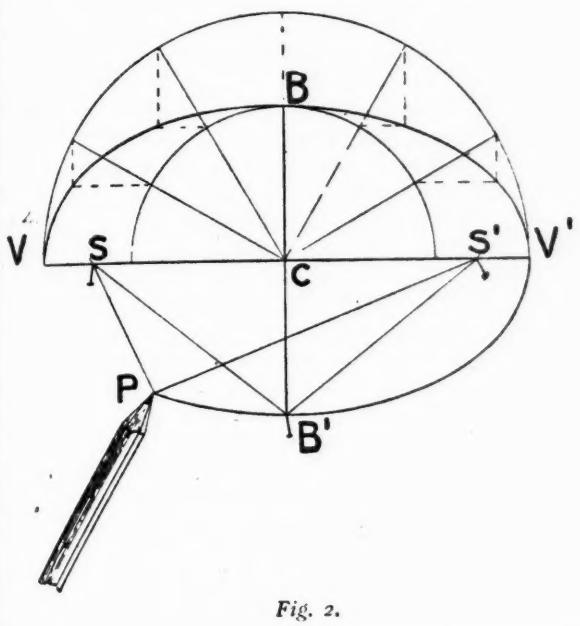

Fig. 2.

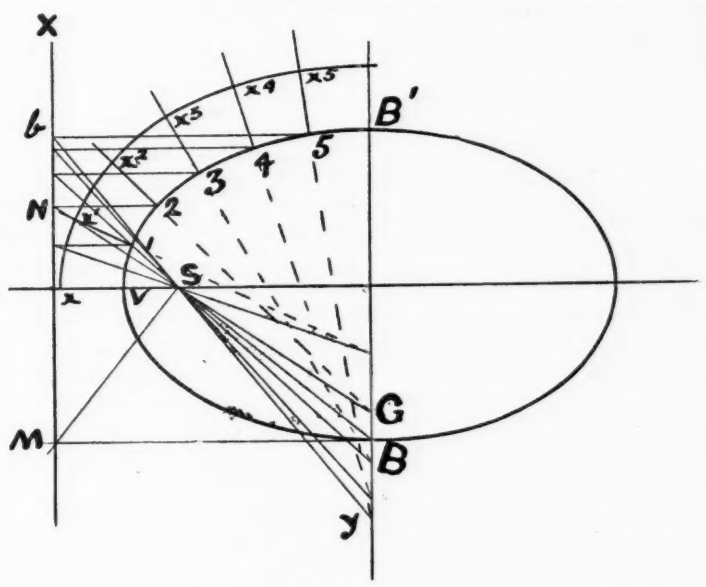

Fig. 3.

endeavour to carry out the amendments now under consideration, and we think this support wise, for it is obviously a question of the utmost importance to the Secretary of State concerned to have no repetition of the Queen Victoria-street fire in buildings of the factory class, which practically come under his control.

As we have said above, we welcome the Building Act Committee's proposals based on the important principle of making certain regulations retrospective, and only regret that time will apparently not permit of the amendments also dealing with the question of structural protection against the spread of fire. Should it still be possible to obtain a suitable draft in time for next Session, in which the structural amendments could be included, we should advise every possible effort being made in this direction; but should it not be the case, we think the architectural profession will at all events be satisfied to know that a serious effort is at least now being made in the direction of ensuring safety of life.

SIMPLE MECHANICAL CONSTRUCTIONS FOR DRAWING ELLIPSES.

THE ellipse may be defined as the locus of a point moving in such a way that the sum of its distances from two fixed points within the figure is constant and equal to the major axis, *i.e.*, the longest diameter of the ellipse. Thus in fig. 2 let VV represent the "major axis" and SS^1 be the two fixed points (these are termed "foci"). Then

$$PS + PS^1 = B^1S + B^1S^1 = VV^1.$$

It would, however, seem to be more usefully defined as follows:—

If two fixed points in a straight rod slide along two fixed straight lines at right-angles to each other, any other fixed point in the rod (except that that is equidistant from the two original fixed points) will describe an ellipse.

This last definition supplies an immediate construction for drawing the ellipse when the axes are given.

Let VV^1 and BB^1 (fig. 1) represent respectively the "major" and "minor" axes of an ellipse.

Procure a straight-edge and mark upon it VP and Pb, the semi-major and semi-minor axes. Extend the axes of the ellipse to O and O^1, as shown. Place the straight-edge with the point b upon the major axis, and the point V upon the minor axis, when P will determine a point in the curve. By sliding the rod along, keeping b upon the major axis and V upon the minor axis, a pencil held to the point P will describe a quadrant of the ellipse. By treating each quarter of the figure in this way, the complete curve can be determined. It will be observed that in this case Vb equals the *sum* of the semi-major and semi-minor axes, the three pins and make it fast, remove the pin from B^1 and substitute a pencil. If the pencil be moved along the drawing-board and the string be kept taut, the point of the pencil will pass through V^1B^1 and V^1 and determine the complete ellipse.

The elasticity of the string renders it a difficult matter to draw a correct curve, otherwise this method would be excellent.

The bed-joints between the voussoirs of an ellipse arch should be normal to the soffit curve, hence the drawing of normals is of considerable importance to the "setter-out" of such work.

It is proved in works on "conic sections" that a normal at any point in a "conic" bisects the interior angle made by lines drawn from the point to the "foci." Thus if the angle SPS . (fig. 2) be bisected, the bisector will be normal at the point P.

When a series of normals are required as at 1, 2, 3, 4, 5 (fig. 3), they can be more expeditiously obtained by the aid of the following interesting property of the ellipse. *The normal of a point 2 intersects the minor axis in G; a line drawn from 2 parallel with the major axis intersects the directrix in N. Then NG passes through the focus (S).*

Hence determine the directrix (MX) by joining any point on the curve (in the figure B is made use of) to the focus. At B (the point) draw BM tangent at B (this will be parallel with the major axis), and at S erect a perpendicular to BS, cutting BM in M,

d

which is a point in the "directrix." Draw MX perpendicular to the major axis. To obtain the "normal" at a point—say 5—draw 5 *b* perpendicular to MX, meeting it in *b*, from *b* draw a line passing through S, meeting the minor axis in γ. A line drawn from γ through 5 is the normal at 5; the other normals 1, 2, 3, 4 can be obtained in the same way.

Reverting to the second definition here given of the ellipse we see that any point in the moving rod traces out an ellipse, and by taking different points (but using the same generating lines) any number of ellipses can be drawn, all having a common centre and their axes on the same lines; but no two of these ellipses are parallel, although sometimes they may appear nearly so.

To draw a curve parallel to a given ellipse, find a series of normals as just described, then mark on these the required distance between the curves as VX, IX^1, $2X^2$, &c., and draw a fair line through the points thus determined. T. L. B.

NOTES.

The County Council Loan.

THE issue of a new loan by the County Council of 2,000,000*l.* at 3 per cent., bringing the total raised by the Council in the last five years to the sum of nearly 16,000,000*l.*, again furnishes an opportunity for drawing attention to the serious increase in municipal taxation. The net debt is now stated to be 27,188,000*l.*, equal to about one-twenty-fourth of the whole National Debt, and of this sum only about 2,500,000*l.* can, we believe, be called in any way reproductive debt, although how far any of the undertakings of the Council are remunerative in a strictly commercial sense we are unable to state. Before long we trust public interest may be aroused in the question of municipal government and loans, and especially in the question of municipal trading and the burdens imposed on householders for the so-called benefit of the community at large. We have from time to time expressed our views on these subjects, and now only draw attention to the above figures, and to the failure on the part of some members of the Council to extract any exact information from the Finance Committee as to the amounts to be raised in the near future.

Compensation for Land "Injuriously Affected."

AN interesting and new point on the law of compensation when land has been taken under compulsory powers has been decided in the case of Long Eaton Recreation Grounds Co. *v.* Midland Railway Co., reported in the Law Reports for November. The Company owning the recreation grounds had sold certain other lands for building purposes to various persons. This land was all sold subject to two restrictive covenants—(1) against the erection of "any erection or building" except of one particular description within certain defined limits on the said land; (2) against the erection of any "building" on the said land other than private dwelling-houses. A railway purchased the land from the grantees, and erected thereon an embankment which it was alleged infringed both covenants, and in respect of this the Recreation Grounds Company alleged that the property retained by them was injuriously affected, and they claimed compensation under Section 68 of the Lands Clauses Act, 1845. The Court of Appeal have now held the section to apply to an infringement of such covenants, and the Land Company to be entitled to the 650*l.* awarded them by a jury on the arbitration in respect of the injury sustained by their property. This is the point of importance to landowners, as it has never before been actually decided; but incidently another point of interest was the subject of decision, viz., that the railway embankment was a "building" within the scope of the second restrictive covenant. It is obvious that in the present case the covenant was primarily directed to secure the building of private dwelling-houses only, but in view of the facts of this case draftsmen will be wise always to extend such a covenant to embrace all erections, or additions to the land, as all structures might not answer the description of "buildings."

Recovery of Water Rates.

THE litigious householder will do well to study the case of Elliott and Another *v.* Russell (*Times*, October 30). The Town Council of Southampton, acting as the Urban Sanitary Authority under the Public Health Act, 1875, had supplied the appellant with water for trade purposes from March 21 to June 5, 1901. On August 18 they made a demand for the water rate, but not obtaining payment, on February 13, 1902, they laid an information under the Summary Jurisdiction Act, 1848. Section 11 of that Act enacts that when the provisions of the Acts of Parliament dealing with each particular case are silent as to time the information shall be laid "within six calendar months from the time when the matter of complaint arose," and it was contended that the date in this case was June 5, and not the date of the demand, viz., August 18, and that hence the information was out of time. The Divisional Court, however, held that since by the incorporation by Section 57 of the Public Health Act of certain provisions of the Waterworks Clauses Acts, the charge for supplying water became a "rate," section 256 of the Public Health Act had application and the information was rightly laid for failure to pay the rate when due or "for the space of fourteen days after the same has been lawfully demanded in writing." The decision, it will be observed, practically does away with any limit of time within which such proceedings must be brought.

Wooden Cottages.

A QUESTION of considerable importance has been raised in some correspondence in the *Times*. A Mr. Tilley erected a six-roomed labourer's cottage, with kitchener, washboiler, bath, &c. He seems to have obtained some kind of sanction from the Local Government Board for the erection of this structure, but the Rural District Council of Dartford have obtained an order for its demolition. Whether this order is valid or not we are unable to say from Mr. Tilley's letter. The real point of importance is whether it would not be well if such buildings could be erected. They would be undoubtedly superior in every way to many existing cottages in rural districts, and on this ground should be allowed. Another ground is that the cost of building has increased so much of late years that there is less and less inclination on the part of landowners to lay out money in cottages which can return but little interest and give much trouble. Therefore, if possible, cheap, commodious, and wholesome wooden buildings should be allowed. Their life may not be long, but a building which exists only for a limited term of years in good condition, and can then be demolished, is better than a more durable building which stands long after it is really unfit for habitation. The subject is one of much importance, and we hope it will be brought before Parliament.

"Boilers Old and New."

WE have received a copy of a paper on "Boilers Old and New," read at a recent meeting of the Institution of Heating and Ventilating Engineers. It deals only with the boilers used for heating-installations of moderate size on the low-pressure hot-water system, and the title is therefore somewhat misleading. The author, Mr. Louis F. Pearson, prefers cast-iron boilers to wrought-iron, and considers steel inferior to both, on account of its more rapid corrosion. Precedence in the manufacture of cast-iron sectional boilers is claimed for this country, but the early types were faultily constructed, and it was left chiefly for the Americans to make those improvements in details which have rendered this class of boiler so useful and popular. The paper is short and very far from exhaustive, but nearly all the most important points are briefly touched upon, and the author has usually something to say which is of practical value to the architect and heating engineer. Illustrations of the best modern types would have added to the value of the pamphlet.

Bosham Church, Co. Sussex.

THE vicar asks for subscriptions to a sum of 2,500*l.*, the estimated cost of the reinstatement of the ancient parish church of the Holy Trinity, at Bosham, of which the walls, ceilings, and roofs, with the spire, greatly need repair. It is believed that the church stands on the site of a Roman basilica, some remains of which may be seen in the bases of the chancel piers. There are similar remains embodied in the nave, tower, and portion of the chancel, which are considered to be Saxon work. The former church is shown in the Bayeux tapestry, with the arrival of Harold, and an inscription—"They come to Bosham." Bosanham had been the home of Godwin, to whose earldom of Wessex, Sussex, and Kent his son Harold succeeded; a daughter of Canute, who also had lived there, was buried in the nave of the church. In A.D. 681, Wilfrid, Archbishop of York, when preaching Christianity in the South Saxon province, visited, as Bede relates in his "Ecclesiastical History"—see B.IV., c. 13—"a certain monk of the Scottish nation, whose name was Dicul, who had a very small monastery at the place called Bosanham, encompassed with the sea and woods and in it five or six brothers." That convent had been founded by Ethelwach, who in 648-86 was King of the South Saxons, at Bosham, which lies at the head of a creek of Chichester harbour. From a very remote period the church had been attached to the manor. Early in the twelfth century William Warlewast, Bishop of Exeter, enlarged the fabric with two aisles, and lengthened the chancel, for a college of a dean with five secular canons, and the

collegiate church continued to be exempted from ecclesiastical jurisdiction until the Dissolution, when it became parochial. In 1845 the south aisle was restored and other improvements were made. In one of the articles, "The Statistics of Saxon Churches," published in the *Builder* of September-November, 1900, Professor G. Baldwin Brown cites the fine moulded chancel arch with angle and soffit shafts and the very interesting Saxon work in the jambs; he says, indeed, that Bosham is one of the most complete Saxon churches in the South of England.

The Haymarket Galleries.

THE exhibitions at Messrs. Tooth's and at Mr. McLean's Galleries may be classed together, as they are next door to each other, and open always (probably by arrangement) on the same day. Mr. McLean has a large landscape by M. Harpignies, "On the Loire" (35), in the great French landscape-painter's best style, and a cattle-picture by Herr Van Marcke, "The Turnip-field — Early Morning," on a larger scale than usual with this painter, and with all his usual talent, but somewhat uninteresting from the absence of the landscape element. Mr. Hurt's Highland landscape, which is one of the regular events at this exhibition, is as powerful as usual; there is a fine moonlight landscape by Mr. Farquharson, and a large one by Mr. J. Weiss, "Chalk Quarry near Arundel," which is a broad and powerful work in itself, but does not convey the actual character of the scene, which we remember quite well; it is, as it were, translated into a rough, bold style peculiar to the painter, but not the character of Arundel landscape. The works in the small room include some small Corots; a good picture by Mr. Thaulow, "Steps of the Salute, Venice;" and a very charming small landscape by M. Lamorinière, "Pas de Calais." Messrs. Tooth's exhibition cannot be said to have any leading work, unless it is M. Roybet's "A Cavalier," in which the rather sentimental expression of the face is oddly at variance with the demonstrative character of the costume. Messrs. Tooth's gallery seems to be the chosen home of Mr. Leader, whose rather mechanical landscapes are somewhat too numerous; in "The River Conway," however (67), the distant hills are finely treated. There is a very fine specimen of the work of Clays, mannered as regards the water, but with a fine impression of calm about it; and there is a small but admirable and most interesting work by M. Detaille, "Bonaparte in Egypt, 1798," which enables one to realise the Bonaparte of the Directory—thin, handsome, long-haired, with large luminous eyes; a phase of Napoleon's personality which has been rather forgotten behind the more numerous paintings of the Napoleon of the Empire. There are eight small sketches by Meissonier, only one of which, however —"Soldat, Première Republique," has the special quality of Meissonier's art. Among the other noticeable things in the large room are a good example of Chevilliard's work; two or three not very remarkable Corots; Jacque's "Shepherd and his Flock," which rather reminds one of the Vicar of Wakefield's family piece, with "as many sheep as the painter could put in for the money"; and a small but beautiful landscape sketch by Cazin. The small room contains an interesting miscellaneous collection, including a cattle-picture by Rosa Bonheur, some good examples of Prout, a fine little landscape by Alfred Hunt, two satiric figures by Chevilliard—"Lecture Sacrée" and "Lecture Profane," and two fine landscape and cattle subjects by A. J. Groenowegen, a painter whose name is new to us, but whose acquaintance is worth making.

The Goupil Gallery.

AT the Goupil Gallery Messrs. Marchant have an interesting collection of studies and sketches by Mr. Clausen, not painted for exhibition, but representing just the current daily work of an artist. Some of them are pastels, and others which are not look a little too like pastels in texture; but they are full of fine suggestions of light and colour. The best perhaps is "The Path by the Ricks" (12), a work which arrests attention at once by its force and originality of style. Among the small and slight studies, mere memoranda of composition or colour, are some very clever and suggestive things; "The Little Moon" for instance (6), with the moon looking quite luminous, though a mere patch of colour in the middle of brown paper; and "The Rickyard." A half-length portrait of a girl, "The Bird's Nest" (2), though not exactly beautiful, is full of character.

Society of Fine Arts.

AT the Society of Fine Arts is a collection of sea-paintings by Mr. W. Ayerst Ingram, representing "The Waters of the Old and the New World." Mr. Ingram is a sea-painter who has been steadily progressing in his art, and this exhibition ought certainly to add to his reputation; it seems to represent his best point of achievement, and contains many fine drawings, and nothing that is ordinary or commonplace. "Dawn in the Atlantic" (17) is an exceedingly fine study of sea; as also "Heavy Weather" (41), showing another aspect of the open sea. Some small sketches of Venice are notable for their feeling for colour; and "Workaday Venice" (42) shows how much poetry and effect may be got out of even the more prosaic portions of the city of the sea. In the two sketches of New York from the sea (43 and 49) the tower buildings are not quite upright, a not infrequent fault with painters who do not make a special study of architectural subjects. Among others which specially pleased us are "The Rapids, Penzance, Massachusetts" (10); "The House on the Sandhill, Tangier" (21), a capital effect of strong sunshine, with a figure in exactly the right place in the composition; "Coasting Craft at Anchor, Venice" (48); "Gathering Clouds" (50); and "The Dolomites, from Venice" (63).

French Gallery, Pall Mall.

AT the French Gallery in Pall Mall there is a collection on view of the works of Professor Corrodi, of Rome; chiefly Italian landscapes. The first general impression to the English eye is the extreme hardness of manner of all the paintings; but to judge them fairly we must no doubt consider the position of a landscape painter habitually painting in the clear air of Italy, and also the influence of modern Italian taste in art; not we fear the best, but at all events very different from ours. From this point of view one may admit that these landscapes exhibit very careful work and a fine feeling for composition. The best landscape in this sense is "Autumn Flowers Corsica" (23); "Peace: the Convent of Santa Margherita" (9), and "Napoleon at Elba" (31), are fine effects, if a little too scenic. "Montenegrin Highlands" (55) is a powerful representation of a wild country; "La Bella Napoli," with its level blocks of houses yellow in the sunlight, is very effective. Among two or three works purchased by the Queen, the small one "Tide Coming in on the Lido" (30), is a fine and finished study of the movement of water.

LETTER FROM PARIS.

AN interesting paper was read on the 25th ulto. before a meeting of the Union Syndicale des Architectes, by M. A. Bigot, one of the chief manufacturers of ceramic and enamelled stoneware in France. The subject of the paper was "Les Grès Flammés," and M. Bigot, who has produced some of the most important of the enamelled and decorative stoneware lately employed at Paris for architectural and decorative work, amongst which is the façade of the premiated house reproduced in the *Builder* recently, is considered an authority on this subject.

M. Charles Normand, the Director of the Société des Amis des Monuments et des Arts, has organised an excursion to the Château of Rambouillet, and will read a paper concerning the monument, enhanced in interest by the recent discovery of new documents.

M. Chedanne, the well-known architect, has been commissioned to prepare preliminary studies for a Franco-American club, to be erected on the Boulevard des Capucines. The proposed building will cover a surface of 8,000 super. yards, and will contain a large swimming-bath, together with rooms specially arranged for sports, lawn-tennis, &c. A hotel to contain 200 rooms will be annexed to the club.

At its next meeting the Société des Amis des Monuments Parisiens will discuss the competition organised by M. Edouard Détaille for decorative shop signs at Paris; the question of the employment of the trolley system of electric tramways in Paris; the hideous aspect of the river quays at Paris since the late Exhibition; a *résumé* of the efforts made by the Société since its formation to obtain a modification of the regulations concerning street fronts at Paris, so as to afford facilities to architects to change the somewhat monotonous streets characteristic of Paris; the satisfaction given by the new regulations passed in August last, and the question of avoiding going to extremes in the other direction.

On Wednesday, the 29th ult., M. Louis Bonnier, the originator of the new regulations regarding street fronts, gave an interesting lecture on this subject to a crowded audience in the theatre of the Ecole des Beaux-Arts. M. Bonnier explained by means of diagrams and models the terms of the regulations concerning the somewhat complicated rules for the templates, angles, arcs, projections, &c., which will allow architects in future to study out new effects for their cornices, balconies, and projecting mouldings on façades. The new regulations are already in force, but it has been decided to permit a certain latitude until the end of this year.

M. Roujon, Directeur des Beaux-Arts, has approved the estimate prepared by M. Daumet, architect, amounting to 7,000*l*., for the continuation of the work of restoring the Château of Saint-Germain. This credit, voted from the fnnds of the Monuments Historiques, is entirely separate from the equally important credit granted by the Commission des Bâtiments Civils.

The opening of the Ecole Spéciale d'Architecture at Paris took place on the 15th ult., and was presided over by M. Doumer, late Governor of Indo-China. In reply to M. Emile Trélat, the Director of the Ecole, who felicitated M. Doumer on the important work he had accomplished during his mission, the latter replied that his work had chiefly consisted in opening up the country and affording architects and engineers opportunities of constructing roads, railways, and bridges, and that it was only just before his departure that he was able to erect a palace for the Governor and a museum. He said he would like to speak of the reflections which the changed

aspect of some of the Parisian streets since his absence suggested. He said that on seeing certain buildings and certain "maisons de rapport," recently constructed at Paris even as far as in the Avenue des Champs Elysées, it was obvious to him that the French good taste—which relied chiefly on simplicity, and drew all the beauty of its work from the grace of line and the harmony of proportions—was being sacrificed in favour of German and Austrian taste, which revelled in complicated lines and numerous ornaments. He entirely condemned the "New Art," as exhibited in some of the recent work at Paris, and sincerely trusted that the young architects to whom he was speaking would return to the traditions of their national art.

The date which ends the competition for shop signboards is now approaching, and about seventy designs and models have already been submitted. Several of these have been sent from abroad—from Rome, Liverpool, Géneva, &c. One artist from Angers has sent in a design which would cover an entire façade. Among the competitors are M. Gèrôme and M. Detaille. The question as to the liberty to be allowed in regard to the size and projection of the premiated designs when executed will now become one of much discussion, more especially since the passing of the new street regulations concerning projections on house fronts. The Académie des Beaux-Arts has selected five of its members to form part of the jury in the competition. These are MM. Bonnat, Vaudremer, Luc-Olivier Merson, Fremiet, and Chaplain. The designs and models will be exhibited to the public in one of the public halls, installed with electricity, so as to provide illumination for the luminous signs.

The Minister of Public Works has been authorised to accept in the name of the State the donation made by M. Rouville, Ingénieur-en-Chef des Ponts et Chaussées, of a sum of 2,400*l.* intended to form a prize every five years to be awarded to one of the engineers of the Ponts et Chaussées who, in France or abroad, shall have executed a remarkable work of engineering, or have published a technical work realising a progress in the science of engineering, or have realised in some manner an important improvement in the art of construction, or in the industry of transports. A sum of 400*l.* will be awarded every five years, starting from 1906.

On the initiative of the Société d'Océanographie of the Gulf of Gascogny, it has been decided to construct a maritime meteorological observatory on the quays of Bordeaux. MM. Halphen and Girard are the engineers, and the building, which shows some originality in design, will be a very lofty one. It will contain all the telegraphic and meteorological instruments necessary for rational forecasts of the weather and their utility to navigation and agriculture.

The question of "tout à l'égout" has again entered into a practical stage, and a large number of householders, who have not yet complied with the recent law concerning the sanitation of houses in Paris, will be brought before the courts this month.

The "Vieux Paris" Committee has been invited to meet at the Hôtel de Ville for the purpose of giving the opinion of its members on the various schemes proposed for the prolongation of the Rue de Rennes. The Committee has decided to uphold the scheme submitted by the Prefect of the Seine and M. Bouvard, which proposes to divide the Rue de Rennes into two portions where the prolongation meets the building of the "Institut," and to carry one portion along the side of the Hôtel de la Monnaie as far as the embankment, the other side having its termination on the Quai Malaquais near the statue of Voltaire.

The interesting and important railway bridge called the Viaduc du Viaur, situated on the new line of railway from Carmaux to Rodez, was inaugurated on the 5th ult. by M. Maréjouls, Minister of Public Works. This viaduct, which is most remarkable by reason of its height, its immense span, and the boldness of its design, was constructed by the Société des Batignolles, as the result of the competition opened in 1889 by the Minister of Public Works. The viaduct was designed by M. Bodin, engineer, professor at the Ecole Centrale, and was carried out under the supervision of MM. Volontat, Lanusse, and Andrieu. The length of the bridge is 1,500 ft., the span of the central arch is 722 ft., with a height of 375 ft. from the bottom of the valley beneath. The total weight of the metallic portion is 3,760 tons. This viaduct, which is wholly constructed of steel, with masonry abutments, took seven and a half years to complete.

The Champ de Mars, cleared of all vestiges of the late Exhibition and neatly arranged into gardens by MM. Bouvard and Vacherot, has now been opened to the public. No decision has yet been come to between the State and the City as to the ultimate arrangement of this immense space into avenues and public parks.

It has already been found necessary to make a careful revision of the upper portions of the Grand Palais de Champs Elysées, for very lately a large portion of the entablature fell in front of the central entrance. Instructions have been given to the Service of Architecture to make a careful examination of the entablature and cornice, under the direction of M. Pascal. It is said that the foundations of the building were insufficiently protected from the infiltrations from the Seine close by, and that the foundations generally are settling.

The "Vieux Paris" Committee is now extending its attentions to the outskirts of the town, and is doing good work in calling attention to the state of the various historical buildings in the suburbs. It has induced the Municipality of Bagnolet to affix historical inscriptions on the Château du Regent, the Château des Bruyères, and the Parc le Peletier, all of which have some historical interest and architectural details. The Committee has also adopted the suggestion of M. André Hallays to reproduce in a methodical manner, by means of photographs, all the various present aspects of Paris, and it is intended to present to the Carnavalet Museum a complete collection of photographs of Paris as it exists to-day. A competition will probably be opened between photographers, both professional and amateur, for the supply of general and detailed views, and medals will be awarded by the Municipality to the authors of the selected photographs.

M. Redon, the architect to the Louvre, has terminated the rooms destined to receive the fine collection of Oriental antiquities presented to the Museum by M. de Morgan. M. de Morgan has lately visited these rooms and has declared himself quite satisfied. He expects to be able to add to the collection by objects which he will bring back after his new researches in Persia.

Independently of the monument to Charles Garnier, which is still behind scaffolding and the date of the inauguration of which is not officially settled, there will shortly be several artistic ceremonials in Paris. In December the Minister of Fine Arts will open the Gustave Moreau Museum; and about the same date the Petit Palais will be thrown open to the public. Great efforts are being made to prepare the interior for the reception of the Dutuit bequest by the specified date. The galleries for it have been lined with a grey-blue hanging which will make a very good background for the works to be exhibited. The picture gallery of old masters is completed, and presents a fine show of works by Hobbema, Teniers, De Hooghe, Rembrandt—especially a fine portrait of himself by the artist—Mieris, Ostade, and Terburg. In the next gallery are original drawings by Rembrandt, Van Dyck, and other painters of the seventeenth century. The ceramic gallery contains comparatively few objects, but they are of genuine value, especially the specimens of Palissey ware, and of the faïence of Oiron, now very scarce. In the east part of the building are placed the books left by M. Dutuit, including many rare editions and fine bindings, as well as illuminated manuscripts. In the opposite wing will be placed the principal modern pictures belonging to the Municipality of Paris, including works by Courbet, Delacroix, Cogniet, Delaroche, &c., and among living painters MM. Bonnat, Laurens, Besnard, Tattegrain, Roll, Detaille, Dagnan-Bouveret, and many others. In the front gallery parallel to the main avenue (the ceiling of which is ultimately to be decorated with paintings) are arranged a good many modern works of sculpture, including M. Fremiet's "Saint George," M. Mercié's splendid group "Gloria Victis," M. Allouard's "La Source," M. Gautherin's "Paradis Perdu," and Dalou's splendid bas-relief in marble "A la Gloire de la République," as well as a small reproduction of his monument on the Place de la Nation. These will be mingled with plants and shrubs, so as to form a kind of winter garden of sculpture.

The idea of an Autumn Salon, for which it was thought the Petit Palais might be utilised, is now at an end as far as that locality is concerned, the building being now entirely occupied; such an exhibition, if organised, would have to be held in the large Palace. In any case the idea of carrying it out is deferred to 1903, but it is not likely that the scheme would have any success with the public, who have at present as many exhibitions as they want. At the Hôtel de Ville the competitive designs for Signs are to be exhibited, and after this is over there will be an exhibition of the paintings for the decoration of the Mairie of Vanves—entirely a landscape painter's competition, as the pictures are to consist of representations of the coast scenery of the neighbourhood.

The "Vieux Paris" Committee has recently a rival and opponent in a "Nouveau Paris" Committee, which sets no store by antiquities, and opposes all archæological prejudices which will stand in the way of Paris "improvements." The Municipal Committee condemned the proposed Pont du Louvre on æsthetic grounds; the Paris Nouveau Committee is demanding that it should be carried out by "Ingenieurs et architectes modernes," a very disturbing phrase, for modernism has become of late a very elastic term, and while "Art Nouveau" is bad enough in private houses, it offers for public works opportunities for eccentricity which may have very painful results, as the new stations of the metropolitan railway already attest.

Some days since, the Luxembourg Garden received a new sculptural ornament in the shape of a monument to Gabriel Vicaire, the poet, modelled by M. Injalbert; a bust placed on a pedestal draped after the antique fashion. Also there has been inaugurated, at the Mont Parnasse Cemetery, the monument to Baudelaire, by M. de Charmoy. This is a work designed in a ghastly kind of taste which was probably thought suitable to the memory of the poet who wrote "Fleurs du Mal." It represents the dead figure of the poet enveloped in a winding-sheet and laid out on a tombstone. Above is a grimacing figure representing the "Génie du Mal."

The works of the Metropolitan Railway are being vigorously pushed forward in all corners of Paris, and workshops in connexion with it, in various quarters, bear witness to the activity of the municipal engineers. On the line No. 2 there is full circulation as far as the Place d'Anvers. Beyond that station the line rises with a very steep gradient to the long viaduct which leads to the Belleville tunnel; but this part of the line can hardly be open for traffic before February.

The death is announced, at the age of thirty-three, of M. Georges H. Levalley, the engraver, who in 1890 obtained the Grand Prix de Rome. He was a pupil of Henriquel Dupont, Cabanel, and Théodore Maillot, and exhibited frequently in the Old Salon. Among his best works are "Printemps," after Botticelli; "L'Amour sacré et l'Amour Profane," after Titian; and "Un Astronome," after M. Roybet. Some of his engravings were published in the *Gazette des Beaux-Arts.*

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

PRESIDENT'S ADDRESS.

THE opening meeting of Session 1902-1903 of the Royal Institute of British Architects took place at No. 9, Conduit-street, Regent-street, W., on Monday, when the President, Mr. Aston Webb, A.R.A., delivered the opening address.

Mr. Alexander Graham, hon. secretary, announced, with regret, the decease of the following members:—W. Salway, of Melbourne, elected an Associate in 1874 and a Fellow in 1885; G. Truefitt, Worthing, elected a Fellow in 1860, and placed on the list of retired Fellows in 1899; C. France, Bradford, elected a Fellow in 1898; Emerich Steindl, elected an Hon. Corresponding Member in 1894, Professor of Architecture in the Royal Polytechnic School, Budapest, and architect of the Parliament Houses, Budapest* (a few months before his death the Institute received from him an album of photographs of this building); and Eugène Müntz, elected Hon. Corresponding Member in 1893, a member of the Institut de France, Vice-President of the

* For illustration, see our issue for August 25, 1894.

Académie des Inscriptions et Belles Lettres, and conservateur of the Library and Collections of the Ecole Nationale des Beaux Arts. M. Müntz died on October 30, aged fifty-seven. M. C. Lucas, Hon. Corresponding Member, has promised to write an account of the principal works of M. Müntz, and showing the great loss that archæology and the history of art has suffered by his death.

It was intimated by the Chairman that letters of condolence would be sent to the families of the two deceased hon. corresponding members.

Mr. W. J. Locke, secretary, announced that a statutory examination for the office of District Surveyor and Building Surveyor was held on October 23 and 24, when the following candidates passed and were granted by the council certificates of competency to act as District Surveyors in London, *i.e.* Mr. W. G. Perkins, Tooting; and Mr. A. Halcrow Verstage, London.

The Chairman said he had the pleasure to announce that the Edinburgh Architectural Association had applied for alliance with the Institute in accordance with the Charter. It was his pleasure to move: "That the Royal Institute of British Architects do admit to alliance therewith, under provisions of Section 17 of the by-laws (Nos. 77-81) the following association, *i.e.*, The Edinburgh Architectural Association."

The motion having been heartily agreed to, the Chairman read the following address:—

Colleagues, Ladies, and Gentlemen,—

Since our last meeting in this room two events of national importance have taken place: the dangerous illness and marvellous recovery of our Sovereign the King; and the Coronation of the King and Queen in Westminster Abbey on August 9—an event attended by all the splendour of the ancient rites and ceremonies which tradition has handed down to us as fitting for such an occasion; and it seems but right that the first words of the President of this Royal Institute should be to express on behalf of its members their thankfulness for this happy consummation of their hopes and aspirations.

My next words must be to thank you for the honour you have done me in placing me in this chair—an honour which carries with it many responsibilities, which I shall do my best to fulfil; but whether I succeed or not I will ask you to believe that I am actuated solely by what I consider to be the best interests of architecture, and of this Institute, in which I have always been a firm believer.

I am aware that my task is not made the easier by the admirable manner in which these duties were performed by my friend and immediate predecessor, Sir William Emerson; and I am glad to take this opportunity of publicly congratulating him, on behalf of the members of this Institute and myself, on the high honour of knighthood conferred upon him by his Sovereign—an honour which has given much pleasure and satisfaction to all of us, the more so that it is, I believe, the first time that a President of this Institute has been so honoured.

It is now my duty as your President to notice, as concisely as I can, some of the questions on the art and practice of architecture and the affairs of this Institute which present themselves to us at the present time, and in doing so I will ask you to understand that I in no way lay claim to any special fitness for this task, but that it is merely through the fact of my present position that I am privileged to do so.

On looking back over the last ten years I think we may fairly congratulate ourselves on the progress this Institute has made, the position it has attained, and, more important than all, the work it has done during that period. Ten years ago we had 1,400 Fellows and Associates, now we have nearly 1,700; not perhaps so large an increase as we could wish, but still a considerably larger increase than in the previous ten years.

It is true that our register still lacks the names of some distinguished architects whom we should like to see there, and whose presence would strengthen our power for good, not only in London, but throughout the country. Many of them we know to be well-wishers of this Institute, and to appreciate the work we are doing; I can only say we should greatly value their presence amongst us, and should give due weight to their opinions on any matters in which they may consider that the policy of this Institute could be made increasingly useful in the interests of architecture.

Within the last few weeks we have been much gratified to receive a proposal for alliance from the Edinburgh Architectural Association, which has hitherto held somewhat aloof from us, and we shall, I am sure, all welcome the accession to our ranks of so earnest and able a body of architects, numbering many men who are really enthusiastic and doing good work, and, though the distance between us is great, I hope we may not infrequently have the pleasure of welcoming some of their members amongst us here, and that the alliance may prove of advantage to both societies.

It has often occurred to me how little we know of the proceedings of our allied societies, their aims and the matters on which they feel most strongly, and that anything that would bring us more into touch with them would be a mutual advantage. With this view, one naturally turns to the journal, so ably conducted by our Secretary, Mr. Locke, and there we find our noble selves fully reported in all the glory of large print, but not much space given to the proceedings of our allied societies; and it appears to me that if that space could be increased, a portion allotted to each society, and if the societies would help us by sending up reports of their papers and discussions, we should all get to know a great deal more of what is going on in the country, and become more familiar with the men who are taking an active part in each society's affairs, while the information thus given would greatly widen the interest of our journal. The addresses of the local Presidents could be printed, together with other papers and discussions; and these could, if so desired, be printed separately and issued to the members of the local Society concerned, and thus each Society could obtain an independent journal of its own proceedings at a very moderate cost.

While on the subject of the *Journal* I may say the editor would be very glad to receive communications from members which would add to the interest of the *Journal*, not only from Fellows but also from our younger members.

The President of the Architectural Association of Ireland (Mr. F. G. Hicks), in his opening address the other day, said, speaking of his institute, "It is not a bit up to date, and there seems very little cohesion among the members, for they seldom have an opportunity of meeting." Well, I have heard something of the same sort applied to this institute, that there is a lack of opportunity for members to meet and know each other, and I propose, with the permission of the Council, to give one or two informal "At Homes" here during the session, at which possibly smoking may be permitted (to bring us "a bit up-to-date"), and where members may meet in a friendly way and get to know each other better; and I cannot help thinking that if you will support me by your presence some good may be done in this direction.

The admission of Fellows to this Institute can hardly yet be said to have arrived at a final and satisfactory settlement, and in my opinion this will not be done until Fellows are elected solely from the ranks of the Associates, except in very exceptional instances. But there are at present a large number of practising architects we wish to see Fellows whom we cannot expect to submit to our examinations. This is a matter which will have to be once more considered by your Council, more especially as the provision for the direct election of Fellows lapses in May next.

The financial position of the Institute is, I am glad to say, satisfactory. Ten years ago we had a capital of 5,800*l.*, now we have a capital of 11,500*l.* *Then* our revenue hardly balanced our expenditure, *now* it exceeds it by something over 1,000*l.* per annum.

It is obvious that this increased prosperity lays upon us the obligation of increased activity, for we are not a society to accumulate funds, but rather to make proper use of those our increased prosperity supplies us with.

The question of premises is one that is always with us, and the increase of our office work, and that of the library, is beginning to make it a very pressing one. In many ways our premises here suit us well enough, but we now occupy the whole of the building, with the exception of the galleries, &c., on the ground floor, which we unsuccessfully negotiated for on behalf of the Architectural Association and ourselves in 1896. Failing these galleries, our power of expansion here has come to an end, and the alternative is to build premises elsewhere. This raises the question of a site, which I mention now, as it is possible some of our members may know of something likely to suit our requirements, and, if so, we should be glad to receive from them any information or suggestions on the subject.

The Council, on the suggestion of the Finance Committee, have started a premises fund, and have placed the sum of 1,000*l.* to this account.

A cause which I think this Institute should as far as possible assist is that of architectural education. The Institute, as an examining body, has deliberately left the education of architects to other architectural societies; and in this I think they have acted wisely, for the undue multiplication of educational centres is obviously undesirable. The Royal Academy has an excellent architectural school, visited and instructed by architects, but does not undertake very elementary work, and deals with design only. The Architectural Association has recently started a day school, dealing with elementary work, and worthy of every encouragement; it is a scheme which, I venture to think, this Institute would do well to foster by every means in its power, both financially and otherwise, while individual architects could also do much to assist it by advising parents to send their sons for one or two years to the school previous to their being articled to them.

These two schools, at the Academy and the Association, do to some extent overlap, and if a certain course at the Association schools could be recognised as giving entrance to the Lower Architectural School of the Royal Academy, much in the same way as certain work at the public schools will admit a man to the University of Oxford, subject of course to any conditions that might be thought desirable, a great impetus would be given to both schools, and architects might at last feel that the education of the next generation was in a fair way to being placed on a satisfactory footing that would be capable of great development. There is, I think, no worthier or more unselfish object for this Institute to promote, or one that is more likely to influence architecture for good, than the careful and systematic education of our young men, by a system which will not supplant the present system of apprenticeship, but will rather supplement it by supplying that which cannot be learned in an architect's office, or at least can be better taught systematically in a school.

Our examinations are, I believe, proving of real use to the younger men, and, judging by the increasing number that enter for them, they are fully appreciated. Ten years ago 305 went up for these examinations, while last year there were no fewer than 674.

The real benefit of these examinations is the work required in the preparation for them. We do not claim that they necessarily turn out artists (these are born, not made), but we do claim that, with the knowledge thus obtained, it enables those who are gifted with the artistic instinct the better, and with the more certainty, to realise their imaginations and aims. It is an object for a young man to work for, and an inducement for him to acquire knowledge in some branches of our complex art which, though very necessary for its proper realisation, are apt to be neglected as uncongenial. In connexion with this matter may I venture to hope that architects will give all reasonable facilities to those under them to undergo the necessary preparation.

The question of competitions is one of those questions that are always with us, and as long as architects see fit to enter for competitions it is plainly the duty of this Institute to do what it can to secure—first, the drawing up of such conditions as shall be fair to both parties, and at the same time not entail more labour on the competitors than is necessary to enable a competent assessor to arrive at a just decision; and secondly, to secure the adoption and execution of the best design.

With this end in view a series of suggestions for architectural competitions was drawn up by this Institute in 1881, and reconsidered and revised by the Council during the last session. These have recently been sent to all public bodies likely to organise competitions; in addition to which a copy is always sent to the promoters of a contemplated competition as soon as it is heard of by the officials of this Institute. But when all this is done there still remains the question of the appointment of the

assessor, a matter of supreme importance both to the promoters and the competitors. Ever since 1881-2 architects have insisted that a professional adviser should be appointed in all open competitions, and in many cases the President for the time being of this Institute is asked to nominate the assessor, and after some inquiry into the matter I can find but little objection taken to the selections made, or to the decisions given, bearing in mind, as I well know by experience, that the decision can seldom be thoroughly satisfactory to more than one of the competitors. It has been, however, urged by some that the selection of the assessor should be made by a small committee rather than by the President, and that two or more assessors should be appointed in all competitions of any size. Personally I do not share this opinion, believing that the sense of individual responsibility is likely to give better results in both cases.

How far the system of selecting an architect by competition for the erection of any building is a desirable one will, I suppose, always be in dispute ; but that it gives an equality of opportunity to all architects, great or small, known or unknown, is, I think, indisputable ; and it has always seemed to me one of the strongest points in its favour, for we all could name men, now doing excellent work, whose first opportunity came by competition, and we know in this crowded world of ours how difficult it is for new men to obtain a hearing.

Before leaving matters more especially connected with the affairs of the Institute, I should like to say a word on behalf of the Architects' Benevolent Society. There are so many who faint by the way, and to whom a little temporary assistance is of untold value ; there are so many others who have been worsted in the battle, and through ill-health and other difficulties have fallen out of the ranks, that great demands are made upon the funds of this Society. It is surely our duty to provide for them without going outside for help. Mr. Macvicar Anderson last year raised in a short time over 1,000*l.* with this object, a very handsome and most acceptable addition to the funds ; but interest is very small now and the cost of living very high, and the income of the Society still wants largely increasing. The Council of this Institute, for the first time, have voted an annual contribution of 20*l.*, and there would be nothing pleasanter than to see the number of annual subscribers largely increased during the present year. At present out of 617 Fellows, only 191 subscribe ; and out of 1,066 Associates, only 70 subscribe. I venture to think that this ought not so to be.

And now, gentlemen, if I have not already worn out your patience, I will ask you to consider some questions of wider architectural interest than those we have been considering.

The interests of this Institute are with both old and new buildings. Our interest in old buildings is to trace the history of their origin and growth, and to devise means for their maintenance and necessary repair.

The fall of the Campanile at Venice forcibly reminds us of the necessity for continual watchfulness as to the structural stability of ancient buildings, and the engineer's report on the foundations of our own St. Paul's still further emphasises the fact ; and while these instances by no means justify undue interference or rebuilding of these structures, they show the danger of endeavouring to hand them down to posterity in exactly the same condition as we have received them. Most of the members of this Institute will, I think, sympathise with the desire of the Italians to re-erect their fallen tower, and be pleased that the Royal Academy has taken the lead in showing the practical sympathy of art-loving England with Italy in her loss. But how much better, by careful maintenance and judicious repair, to avoid such catastrophies ! In the case of St. Paul's a note of warning has been sounded, apparently, none too soon, and we look to the guardians of that great pile to take every precaution, on the best possible advice, to ensure its safety, appealing to the Government for funds should that be necessary.

But there is another, and even greater, danger threatening the buildings and antiquities of the kingdom which would rob us of much that gives this old country its charm ; it is, I am afraid, a more subtle danger, and therefore more difficult to deal with. I mean the wholesale depredations of the "art" dealer.

I am informed, on reliable authority, that certain districts in this country are systematically mapped out by these gentlemen, and anything of interest, such as a panelled room, a moulded ceiling, a bit of ironwork even, a chest, or a clock, are all carefully scheduled, the position and means of the owner ascertained, and, as opportunity offers, the property is purchased, the cottage or house often pulled down, the contents sold, generally abroad, and then the land, stripped of its little treasures, is resold. It is difficult to use temperate language about such proceedings ; but surely it behoves us, before it is too late, in conjunction with other societies, to see if it is not possible to take some united action to get these buildings and fittings registered as national belongings, so that, at any rate, they cannot be removed from this country, a course which, I understand, has already been adopted, to some extent, in France and Italy. This is work in which other societies are also interested, and we are always ready to act with them as occasion arises ; indeed, it interests and affects all educated Englishmen.

It is in modern architecture, however, and its allied arts that our influence is naturally most likely to be exercised, especially at a time of such exceptional building activity as the present. The Government is largely engaged in the erection of public buildings ; Local Authorities all over the country are busy with the erection of town halls, asylums, schools, technical institutions, &c. ; while the buildings, residential and commercial, in our great towns continue to increase at almost an alarming rate. What, I think, must strike most of us in all this activity is that while minute control is exercised by public authorities over the details of these buildings, such little control is exercised over the laying out of our cities that, to a great extent, they seem to be left to lay out themselves.

How often we see a really noble and costly building hidden away in some inconvenient and cramped site, without any approaches worthy of the name, simply because the land was easily obtainable or happened to be vacant at the time, or could be obtained cheaply, or to improve the value of adjoining property ; reasons we have heard put forward repeatedly, but nearly always resulting in the loss of a great opportunity of ennobling and beautifying the town ; while, instead of money being saved, as is foolishly supposed, money is really wasted and thrown away.

A predecessor of mine in this chair once urged when heading a deputation on the erection of a public building, that the extra cost necessary for its worthy completion would, even from a commercial point of view, be soon repaid by the increased attractiveness of the city, and the number of visitors that would be drawn to it. The suggestion was received as if it was not seriously meant ; but surely there is force in the contention, though it is but a secondary reason for urging on the public authorities the importance of so placing their public buildings that they may be the ornament and crowning feature of the town.

Why is the National Gallery site so frequently pointed to as an ideal one ? Surely because it has, as so few buildings have in London, a slightly elevated side, with a large open space in front of it, and is approached by a main thoroughfare leading directly to its façade. The Royal Exchange has a fine site, for a similar reason. Wren carefully planned the most splendid approaches to St. Paul's, which would have made the City one of the finest in the world ; but the greed and disputes of the citizens unfortunately prevented his scheme being carried out. Most of our public buildings have no dignified approach, and usually a general view can only be obtained, in sharp perspective, from the roads which run *past* them, not *up* to them, and, as Wren says, they are seen sideways. The matter is of still more importance now that the picturesque manner of the Houses of Parliament and the Law Courts is giving place to a more palatial and formal style. Continental towns set us a great example in this respect, and though we may consider their love of straight avenues and boulevards is often carried to monotony, we cannot but admire the dignified and monumental surroundings they almost invariably contrive to provide for their buildings. I would venture to assert, though it should surely not be necessary, that every public building should be entirely detached, and should stand on a site of an area at least half as large again as the area which the buildings actually cover, and that they should, wherever possible, have a fine road leading up to them. The Americans, who are generally credited with a keen eye for the financial side of a question, are fully alive to this point, and are laying out their cities with great monumental dignity. It seems almost impossible to exaggerate the importance of the architectural surroundings of a building. In the case of private houses some architectural support in the way of steps, walls, and terraces is now usually designed, though unfortunately by no means usually carried out, and one has only to look at the design and the executed work to see how great the loss has been. But if important in a house how much more so in a great public building ! And yet in England how often is this entirely ignored.

Another matter which I notice in London and other places with regret is the disappearance, in the new quarters, of the old-fashioned "square," which adds so much to the appearance of the older quarters. The new-fashioned "gardens" apparently have taken their place, the difference being that while a "square" was bounded by a public road, and had the fronts of the houses facing it, the "gardens" have no surrounding road, and the backs of the houses abut immediately upon it. The result, of course, is that while the "square" adds greatly to the variety and beauty of our streets, the "gardens" are entirely hidden away, and might be non-existent, as far as the public thoroughfares are concerned. The advantage claimed is the increased privacy obtained for the "gardens" counterbalanced, surely, by the improved outlook given by the "square" to the front of the houses, while the somewhat sordid surroundings of the "garden," with its rows of back windows and its stagnant air, hardly make for beauty or restfulness.

Numerous other points in the laying out of our cities will occur to all of us, but I mention these two with a view to asking whether something could not be done to ensure that all such matters should be duly considered while improvements are under contemplation, and before it is too late. I venture to think that these are matters in which this Institute and our Allied Societies can do important public service.

The design and details of buildings are a matter for the individual artist, and not one, in my opinion, in which this Institute can often, if ever, usefully interfere ; but when great improvements are in contemplation the opinion of such a body as ours, composed of societies all over the country, may, I think, be of great use to the public authorities. Never, I feel assured, was there a time when our Corporations and County Councils were more anxious to do all in their power to improve the æsthetic aspect of our cities and towns, or more willing to avail themselves of every means to that end that may be open to them. The Government and the London County Council have frequently consulted this Institute on matters of architectural importance, and other public bodies do, from time to time, consult with their local Architectural Societies. Something, however, more definite seems to be required than this.

At present, as we all know, we architects are unable to erect any building, in any of our towns, without first submitting very complete plans, and in many cases elevations and specifications, to the Borough Surveyor, who exercises, under the local by-laws, a strict supervision with regard to height and size of rooms, windows, thickness of walls, the minutest details of drainage, and other matters ; but when it comes to laying-out suburban districts, street improvements, and such like, which call for the highest qualities of the architect, the plans are usually drawn by the Borough Surveyor, and subjected apparently to practically no expert criticism whatever.

Now, might it not be required that when such schemes have to be prepared they should be submitted for criticism and advice to some expert architectural authority, such as, say, the local Architectural Society, who might also be asked to nominate an architect to consult with the surveyor in preparing the scheme, and, in the event of the Corporation or Council and the Architectural Society not agreeing on any point, might not the question be referred, say, for example, to the Council of this Institute? It surely could not be argued that this would be derogatory to the borough surveyor, for, as we architects cheerfully submit our proposals to the surveyors, there would seem to be no impropriety, but quite the reverse, in the surveyors laying their architectural schemes before the architects, and, in important architectural schemes, working with them.

In saying this, it must be understood that I am not in the least impugning the capacity of the borough surveyors. They are, we all know, an exceedingly able body of men; but they are selected for these posts on account of their fitness and acquaintance with subjects somewhat apart from architecture proper, the study and practise of which subjects do not especially fit them for the designing of work of the highest architectural importance. They are, I venture to think, liable to have great pressure put on them to sacrifice too much to the very important questions of convenience and economy; and if this is so, a further independent opinion would greatly strengthen their hands.

The tendency in recent years has been with Corporations to substitute for the official "architect," as he used to be called, the surveyor; and this is, probably, the most reasonable course, for the matters which the Works Department of a Corporation or Council have mainly to superintend would more perfectly come under this heading; but it would seem reasonable that, when strictly architectural matters have to be dealt with, they should be subject to the criticism of architects, not necessarily officially connected with the local body.

I have dealt with this matter at some length, because it seems to me one in which the Institute could be of real use, and because it is one which so greatly affects the beauty of our cities and towns.

Another matter to which the attention of this Institute has been called is the local building by-laws in many rural or practically rural districts. This may at first sight seem a subject very remote from architecture, though in reality, as many of our members know, it affects architecture very much. These by-laws for rural districts are often drawn up on the lines of the building laws of large towns, they impose most unnecessary and burdensome conditions on those building in the country, and though the attention of the Local Government Board has been directed to the matter, and a deputation has been received, but little more has been done.

The London County Council have schemes on hand of the greatest magnitude, and they have, as is well known, consulted this Institute with reference to the great new thoroughfare from Holborn to the Strand. Unfortunately, they were not able to adopt our suggestions in their entirety; but their Committee, with the best intentions (which they appear not to have been strong enough to carry through), obtained designs in a limited competition, and a report upon them by an assessor, whose decision every one would have been willing to abide by. This report, however, was not made public for two years, and appears to have remained a dead letter since; and now, I believe, this Institute and the public are absolutely in the dark as to whether there is to be any general scheme or control over the buildings to be erected, and, if so, by whom this control is to be exercised, whether each plot is to be let to the highest bidder, without any reference to a general scheme; and, finally, what has become of the design placed first in the assessor's award; and yet it is hardly too much to say that in almost any other capital in Europe it would be looked upon as a matter of public and national importance, and surely it is one on which all are entitled to be informed.

In these public matters connected with architecture, the daily Press might do much to educate public opinion; without the aid of the Press little is likely to be done. But in order to have the necessary influence, architectural matters must be treated with a complete and thorough knowledge of the subject, as is usually the case in matters affecting the cognate arts.

The encouragement of local schools of art by their municipalities is another matter that should interest this Institute. It will be remembered that when London was being decorated for the recent Coronation, the decoration of Westminster Bridge was entrusted to the Royal College of Art; and, mainly through the instrumentality, I believe, of Sir William Richmond, funds were provided by the London County Council for the purpose, the students giving their services. A very ambitious scheme was prepared and carried out, though, owing to the postponement of the Coronation, the scheme hardly received the attention it deserved; but I have reason to believe it gave a great impetus to the work of the college, the students devoting much enthusiasm to a scheme which was not a mere exercise, but one in which their work was actually to be seen in position.

I think the London County Council and all concerned are to be congratulated on this experiment, which might be usefully followed throughout the country, for there are many buildings required for temporary premises, such as those for exhibitions, receptions, rejoicings, meetings, all of which require erection and decoration, and present precisely the opportunity required for students to try their hands upon, and so to learn how much their work gains or loses when seen in reality, and in other surroundings than the studio in which it has been prepared. The employment of students in temporary work such as this is better than their employment on more permanent work, where their inexperience remains recorded against them, and may only end in discouragement. Besides it is only comparatively seldom that an opportunity for permanent work occurs, and when it does it is more properly reserved for men who have passed through the schools, gained experience, and proved their ability. On the other hand, the temporary work gives the opportunity so much desired by students and should it prove unsatisfactory it is soon removed and forgotten; besides, their employment should greatly increase the interest of the municipalities in their schools of art and the students who work in them. Much has been written lately of Municipal Socialism; we could, I think, do with a little more of it in this direction.

While considering the responsibilities of municipalities towards the encouragement of the arts and crafts, we may remind ourselves of the responsibilities that lie also with us. We rightly have a voice in the selection of the artists and craftsmen who work on our buildings, from the sculptor and painter who decorate them to the locksmith and upholsterer who furnish them; great encouragement may be given to the subsidiary arts if we take the trouble to find out individual artists to work with us in the various branches of the applied arts, and while fully illustrating our intentions give them sufficient freedom to carry out their own imagination and inventiveness, with their full share of credit for it. Depend upon it, great discouragement is caused to earnest workers, and much harm done, if just to save ourselves time and trouble we take the first article of commerce that comes to hand. Think what a school of craftsmen the enthusiasm of Pugin raised, producing work which is really little short of marvellous when we remember the sort of work that was being done at that time. We still feel its beneficial effects. Gilbert Scott, William Burgess, J. F. Bentley, and many others, both dead and living, have done the same; it is certainly one of the directions in which we can do incalculable good or ill to our art, and it is a responsibility of which we cannot and must not divest ourselves.

Smoke abatement is another matter this Institute may do something to assist in. The thick dark veil that falls over all our buildings is distressing in the extreme. One of the principles which Wren laid down for the rebuilding of London was: "All trades that use great fires or yield noisome smells to be placed out of the town," and we should see to it in this day that trades which cannot control this nuisance should be made to go outside.

Gentlemen, I cannot conclude without reference to one building recently erected, the Cathedral Church at Westminster, and its gifted architect, the late John Francis Bentley. The erection of a great church like this in the Metropolis is necessarily so rare an event that under any circumstances it would attract attention; but when, as in this case, the work was designed by one of the most inspired church architects of our day, and on lines different from any erected in recent times, it has naturally interested all of us, and excited in most of us an enthusiastic admiration. I do not propose here to give a critical notice of the building—that has already been done, from various points of view, by abler pens than mine—but rather to enjoy the pleasure of noting the erection of a modern building in which all can unite in finding much to admire, though it will be a matter of lasting regret that its architect was not spared in health to witness the completion of his labours, and to receive the congratulations attending the consummation of so great a work nobly, and one may say in his case heroically, carried through.

The present generation will probably have seen three cathedrals of the first class in course of construction—viz., the cathedrals of Truro, Westminster, and Liverpool—the first, nearing completion, designed by one who mastered the old Gothic methods and feeling perhaps more entirely than any of his contemporaries, and who has produced a beautiful building, which might almost, so perfect is it, have been erected in the thirteenth century, and is probably destined to mark the high-water mark of achievement in the revival of a mediæval style.

At Westminster the problem was different from that required by the traditional Gothic plan of a cruciform church, with deep choir and transepts; and this difference naturally and properly affected the whole design, and while an enormous uninterrupted area has been provided for the assembling of large masses of worshippers, the mystery so necessary for the interior of a religious building has been admirably preserved by the careful lighting, the simple intricacy of its arches, its piers, its ambulatories, and its chapels. It is a step forward in church building, nobly planned, and one for which we may be all unreservedly grateful. I would only venture to hope that some day the entrance front may be better seen from Victoria-street by the removal of one or two houses, and that the interior of the building may in due course be worthily completed.

The last cathedral, Liverpool, is still one of the possibilities of the future; let us hope that it may prove, when erected, yet another step forward. I have already expressed my own opinion, that the author of the design named as the best in the first competition should have been given an opportunity of showing what he could do on the new site; it has, however, been decided otherwise. The request, in the first conditions for the second competition, that the building should be designed in a certain style was a curious instance of the inability of the public to trust architects to design for them what is most suitable, for though this condition has been since withdrawn, it is, I believe, generally understood that the promoters remain of the same opinion still. We can only hope that the best man may finally be entrusted with this great monumental work, and that, when it is completed, he may be rewarded by the unstinted admiration of his brother architects, the highest reward any of us can hope to gain.

We, all of us, lavish endless praise on old work, but are, perhaps, too chary of bestowing it upon that of our own time. If we are always contrasting the greatness of old work with the inferiority of the new, can we wonder if the public take the same view, and ask us to reproduce for them what we all so greatly admire? It is true we cannot reproduce old work; but the public do not understand that, for we do not teach them so. Great painters are not asked to paint in the style of Giotto, Fra Angelica, or Titian, and would not do so if they were. Excellent copies of these great masters are made, and in a few years are sometimes mistaken for the originals; but they are not made by our great painters, and are esteemed of little worth. Sculptors no longer masquerade our living statesmen in Roman togas, or attempt to reproduce a Jubilee procession in imitation of the Parthenaic frieze. Why, then, should we still be asked to design in the thirteenth-century or any other bygone style? Because, we are told, we have no style of our own. But are we quite sure that a tradition once broken can never be picked up again? And are we quite certain that the Renaissance tradition has ever been entirely lost in England? I do not think so. Are we going on for ever telling our young men they mnst not only study but copy old work, for they can never hope to produce anything equal to it? Is that likely to give them inspiration? Are we to tell them that while painting and sculpture are alive, the last word has already been said on architecture? There cannot be an architect who holds this opinion, though, I am afraid, under present circumstances, we cannot wonder if the public do so. I am not thinking of that will-o'-the-wisp, a new style—that may or may not come, I do not know; but rather suggesting that by a generous appreciation of modern work, and by boldly and generously showing our belief in it, good contemporary work may be encouraged, and abound among us, so that the public may come to believe and be interested in it also.

There is one quality we all desire in our buildings, whether we attain it or not, *Repose* a quality we find alike in buildings so dis-

similar as the exterior of St. Paul's and the interior of Westminster Abbey, in St. George's Hall, and even in that ornate river front of the Houses of Parliament. It is the result of good proportion, arrived at by mature knowledge, and guided by a true artistic sense: it is entirely independent of styles, it combines simplicity without baldness and richness under control. It is a quality that can be felt, and, as Wren says, "aims at eternity."

Sir Lawrence Alma-Tadema, R.A., F.S.A., Honorary Fellow, in proposing a hearty vote of thanks to the President for his admirable address, said they had been listening to an address which was full of interest for the Institute, and, consequently, for the profession it represented. Their art was second to none, and it would always be the glory of England, if only for the beautiful cathedrals. The address was full of practical affairs—such, for instance, as the question of competitions and the question of education. In regard to education, apprenticeship had been largely done away with, to the loss of the nation, and he advised them not to do away with apprenticeship for architects. Let students study in the schools of the day, by all means, but let them have their years of apprenticeship in an office, where they could learn a great deal that could not be learnt elsewhere, and where they profited by the experience of those who had preceded them. Apprenticeship had been done away with to a large extent in the art of which he was the humble servant. There was a time when the Van Dycks and Raphaels passed through an apprenticeship, and they learnt from their masters how pictures were made. Nowadays a young man was sent to the Academy to learn how to paint, and there he had to listen to some lectures on anatomy, architecture, &c., and then he was sent into the world to make pictures, although he often did not know what a picture was. He (the speaker) was specially fortunate in having the knack of perspective, and his master let him work on his pictures. That was a great thing for him, and he profited by it greatly. The question of education had another side to it, which had a great influence upon the art of the full-grown man—for the artist was never full grown; he referred to travelling. He was convinced that it was dangerous for a young man to travel. When he was a student in Antwerp he received an offer from a friend of a sum of money for the purpose of travel, but he refused to go and remained at home. The best artists of past times did not travel. He thought architects would be much more likely to produce the new style, or the national style, if they remained a little more at home, for there was plenty of splendid architecture in the country to study. As to the new Westminster Cathedral, its architect would never be forgotten as long as the building lasted. There had been a reference in the address to the Architects' Benevolent Society, and the statement was made that many members of the Institute did not subscribe. He was one of the culprits, and if they would allow him he would become a subscriber and ask others to follow his example. [Sir L. Alma-Tadema then signed his name as a subscriber to the Architects' Benevolent Society.]

Mr. J. Macvicar Anderson, Past President, in seconding the vote of thanks, said he was sure they would all join the President in congratulating the late President on the honour and dignity that had been conferred upon him. In saying that, he also wished to go one step further and congratulate their new President on the eminent position he deservedly occupied. He had more than once expressed his opinion of what the ideal architect should be, *i.e.*, primarily and before all things an artist; secondly, and necessarily, a scientist; and thirdly, and necessarily, a man of business. Those who knew Mr. Webb and his work must be convinced that he possesses those qualifications in an eminent degree, and he congratulated the Institute on having him as their President. As to the satisfactory increase of the membership, they must remember not merely those who had joined, but that sadder consideration, *i.e.*, those they had lost, and when they did so, the increase in membership was very satisfactory. The alliance of the Edinburgh Architectural Association was a matter for congratulation, and the result, he believed, would be satisfactory to both societies. The President had proposed to have one or two smoking "at homes" and he (the speaker) thought he would possibly be supported in that proposal. As to the funds of the Institute, it was gratifying to hear that they were in such a satisfactory condition. The President had referred several times to "ten years ago," which was the time when he (the speaker) had the honour of being President, and he remembered suggesting an improvement in the management of the Journal and Proceedings, which he then thought would save the Institute 500*l.* a year. He had had nothing to do with the management of the Institute in recent years, and he did not know what the actual result had been, but he hoped it formed part of the diminution of expenditure which had taken place. As to the question of premises, he agreed that the present premises suited very well in many respects, and he did not think it would be wise to press forward the matter very much. The time might come when they would be compelled to get other premises, but he thought the matter might be left to develop itself. Possibly they might ultimately get what they wanted in their present premises, and it would be admitted that the situation could scarcely be improved upon. As to examinations, ten years ago it was a subject which filled their minds with considerable anxiety, for then they were considering the question of subjecting Fellows to the same ordeal as that through which Associates had had to pass for the previous ten years. That they decided to do and to elect Fellows only through the class of Associates. It was satisfactory to see so many men coming forward now for examination, for it was a subject which had been much misunderstood. As they knew, a memorial was presented to them, entitled "Architecture: a Profession or an Art?" Architecture was an art *and* a profession. There would never be agreement on the subject of competitions. He had always regarded them as almost unmixed evils. As to the Architects' Benevolent Society, the figures the President quoted were remarkable. Architects were a poor lot taken all round, but there were those who could afford an annual subscription to so deserving a society who did not give it. Sir Alma-Tadema's example was a good one. As to the improvement of London, they must all wish that Sir Christopher Wren's splendid ideas had been carried out, for then London would indeed have been a city to be proud of, instead of a city of what might be called narrow lanes rather than fine streets. A good deal had been done towards the improvement of the city by widening old streets and forming new; but opportunities were sometimes lost of doing something fine. One such opportunity was in regard to the National Gallery site. He always thought that a grand improvement would be made by widening Whitehall so that the National Gallery and Nelson's Monument would have been central to Whitehall, but the question of cost prevented the idea being carried out. They must all congratulate themselves upon the fact that the latest idea of the London County Council to erect a new County Hall on the site of Adelphi-terrace and to sweep away all the characteristic work of the Adams, whose work all architects appreciated, had for the present fallen to the ground. They owed something to Mr. Statham for that result for the way he had protested against the proposal. He hoped the scheme would never be brought forward again.

Sir L. Alma-Tadema then put the vote of thanks to the meeting, and it was carried with considerable enthusiasm.

The Chairman, in briefly replying, said the ambition of most architects would be to receive some day the honest appreciation for their work from such a gathering as he saw before him that night.

The meeting then terminated.

The next meeting will be held on November 17, when Mr. F. C. Penrose will read a paper on "The Drawing of the Ionic Volute." A note will also be contributed by Dr. A. S. Murray on "A Fragment of the Parthenon Frieze."

WESTERN CONGREGATIONAL COLLEGE, BRISTOL.—A building fund has been established for the erection of a new college in place of the present temporary premises. The cost of the project is estimated at from 15,000*l.* to 20,000*l.*

APPOINTMENT OF SANITARY OFFICERS. — The Local Government Board has sanctioned the appointment of the following sanitary inspectors: Mr. G. A. Hoskins, sanitary inspector in Bermondsey; Mr. G. J. Bridel, sanitary inspector in Greenwich.

THE HELLENIC SOCIETY.

AT the meeting of the Hellenic Society on Tuesday last, at the Society of Antiquaries' rooms, an interesting and important paper was read by Mr. Jay Hambidge on "The Natural Basis of Form in Greek Art, with especial reference to the Parthenon." The paper was really an attempt to formulate a new theory in regard to the geometric basis of proportion in Greek buildings. The paper can only be rightly and fully judged of when it comes to be printed *in extenso* in the Society's Transactions; but the following *résumé* gives an idea of its main argument:—

An examination of the manner in which the disposition of the elements of form in symmetrical natural objects takes place seems to justify the presumption that it is governed by definite principles. In a flower, for example, where the different parts are disposed about a central point, there is a certain simple series of proportions involved which may be expressed by circles, the length of whose radii is determined by these proportions. In a crystal, as an example of regular form from inorganic Nature, the symmetrical disposition of its planes, angles, and intercepts about its centre involves the same proportions, which may be expressed graphically by circles in the same manner as in the example of the flower.

An analysis of the best examples of Greek architecture and decoration has been made in which these simple proportions have been used as a basis for the investigation. The results of this analysis are so extraordinary that it would seem that the Greek architect and artist, consciously or unconsciously, employed the same simple proportions, which have been observed in natural symmetrical form, to determine the curves, symmetry, the due relation of the parts to the whole, and the general simplicity and harmony of such buildings as the Parthenon, the Erechtheion, the Propylæa, the choragic monument of Lysicrates, the temple at Bassae, the temple of the Winged Victory on the Acropolis, and other buildings of the best period of the nation's art development. The employment of these simple proportions would seem to explain how the Greek decorative artist could refine the curvature and symmetry of such ornamental motifs as the spiral of the Ionic volute, the familiar spiral and rosette of the stelæ, the honeysuckle ornament, the egg and dart, the tongue and groove mouldings, the bead moulding, and the different types of the meander. Wherever precision and subtlety of curvature combined with refinement of symmetry occur in the classical masterpieces of formal art, there is a most complete agreement with the proportions to be found in the regular forms of Nature.

The graphic representation of these simple proportions is made in the following manner:—A series of concentric circles is described whose radii or diameters are in a binary relationship, *i.e.*, the diameter of the first circle is the radius of the circle next in size, and so on (fig. 1).

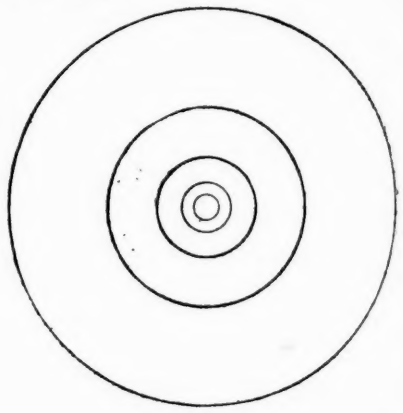

Fig. 1.

In any one of the circles so described, the figures which compose the regular polyhedra—the equilateral triangle, the square, and the regular pentagon—are inscribed. A side of each of these figures is used as a radius for describing other circles concentrically with the binary circles. The circles obtained from these figures in this manner are termed "derived circles," and it will be noticed that their circumferences fall within the space lying between

the circle from which they are derived and the next binary (fig. 2).

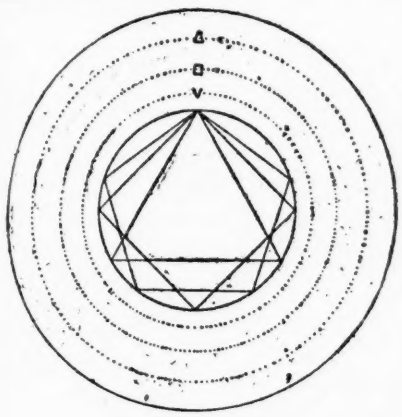

Fig. 2.

For the sake of convenience in explaining how circles described upon these radii determine the disposition of the elements of symmetrical and proportional form, the following notation is used :—

For the binary circles, the symbol

For the circle derived from the side of an equilateral triangle...

For the circle derived from the side of a square... ... ...

For the circle derived from the side of a regular pentagon ...

From the equilateral triangle one other circle is obtained whose radius is the distance from the apex of the triangle to its base, as shown by the dotted line passing through its centre. When this perpendicular of the triangle is used its symbol is

In the course of a short discussion which followed, Mr. Penrose, while highly appreciating the thought and research displayed in the paper, referred to the system of Mr. Watkiss Lloyd for explaining the harmonic proportion in Greek buildings, as being more simple and in his opinion furnishing a sufficient explanation of the facts.

Mr. Statham, while entirely concurring as to the general value and interest of the paper, said he had observed that those who set forth geometrical schemes for ancient buildings were rather apt to emphasise such lines in the buildings as coincided with the theory. Mr. Hambidge had referred to the superficial area bounded by the middle step of the Parthenon, as giving proportions exactly in accordance with his theory. But why the middle step, which was the least conspicuous? An architect setting out the proportions of the plan on a geometric basis would surely rather look to the line of the upper step, as the most prominent, and the immediate base of the architectural design.

THE ARCHITECTURAL ASSOCIATION CONVERSAZIONE.

THE annual conversazione of the Architectural Association was held for the second year in succession at the Galleries of the Royal Painters in Water Colours, on Friday last week.

Over 600 members and friends were received by the President, Mr. Henry T. Hare, and Mrs. Hare, and during the evening many old acquaintances were doubtless renewed, and fresh ones commenced.

Although these functions belong to the social side of the Association's work, the more serious part is not forgotten, and interesting screens of students' drawings and some excellent photographs taken by members of the Camera Club were exhibited.

Those showing the work of the Day school during the past session were perhaps a surprise to many who had not hitherto had an opportunity of examining the progress made under Mr. A. T. Bolton's direction, while the School of Design drawings and the work of the water colour class under Mr. P. L. Forbes clearly showed that the standard of work and draughtsmanship is steadily rising.

A double purpose is fulfilled by these meetings. The all important educational work is brought before the notice of those interested in the welfare of the Association, and the social side, by which so many old friends are enabled to keep in touch and maintain its *esprit de corps*, which alone makes the real work possible, is still further strengthened and developed.

The entertainment provided by Mr. Chester, consisting of songs, stories, and sleight-of-hand tricks, contributed to the general success of the evening.

THE INSTITUTE OF BUILDERS:

ANNUAL DINNER.

THE annual dinner of the Institute of Builders was held on Thursday last week in the "Walnut Rooms" of the Grand Hotel, Charing Cross. Mr. W. F. King, President, occupied the chair, supported by Mr. Aston Webb, A.R.A., President of the Royal Institute of British Architects; Mr. H. T. Hare, President of the Architectural Association; Mr. Arthur Vernon, President of the Surveyors' Institution; Mr. B. I. Greenwood, President of the National Federation of Master Builders; Mr. Walter Smith, Master of the Carpenters' Company; Sir Henry Trueman Wood, Col. Stanley G. Bird, V.D., C.B.; Professor T. Roger Smith, Mr. E. White, L.C.C., and Messrs. H. A. Bartlett, J. Bell, J.P., J. Carmichael, F. J. Dove, Basil P. Ellis, J. S. G. Gibson, F. T. W. Goldsmith, J. Greenwood, F. Hardcastle, J. A. S. Hassal, Woodman Hill, H. F. Higgs, H. Holloway, W. C. Jones, C. E. King, W. J. Locke, H. V. Lanchester, F. May, F. Millar, R. Neill, J.P., W. A. Pite, J. Randall, E. R. Robson, W. Sapcote, W. Shepherd, Silvanus Trevail, A. W. Turnbull, C. Wall, W. F. Wallis, and others.

The loyal and patriotic toasts having been honoured (Mr. W. Sapcote suitably proposing "The Imperial Forces" and Col. Stanley Bird responding),

Mr. H. T. Hare proposed the toast of the evening, "The Institute of Builders." He said there was no body of men who entertained greater sympathy for builders than architects. One was really the complement of the other; one profession could not exist without the assistance of the other. It would be impossible in these days, as in oldern times, for the architect to carry out his own designs, and it would be equally impossible for the builder to design important works with any chance of success. The tendency of the present time was towards combination and union—rightly so, for union gave strength. The artisan had combined and endeavoured, as he was right in doing, to obtain for himself the best conditions he could, but in doing so he often trenched upon the rights and privileges of the employer. In order to resist what ultimately became an unreasonable demand, it was necessary for the employer to combine to protect his interests. The nearer masters could approach the strength of the workmen's unions the nearer would they approach to a just equilibrium between the two parties. The architect fully realised how important it was that the interests of the builder, the workman, and the employer should be equitably adjusted, because in so far as that was effected the smoothness and the absence of friction in work was assured. One frequently heard remarks made as to the good old times, and the work which is now done was often unfavourably compared with the good work which used to be done. That, to a great extent, was very unjust; his experience was that the best work done now is immeasurably better than the work which was done in the past. The reason for a great deal of the inferior work carried out at the present time was because people were not prepared to pay for the very best work. People tried to get a little more—and in many cases a great deal more—than they had a right to expect for the money they were prepared to spend. Any one prepared to pay a better price could get better work done to-day than was done in the past. There were many buildings erected to-day which were better than the best ancient work.

The Chairman, in response, said the Institute of Builders was the successor of the London Builders' Society, and was incorporated in 1884 as the representative Institute of Builders, not in London only, but throughout the United Kingdom. The objects for which the Institute was incorporated were, amongst others, the adoption of equitable forms of contract, the encouragement of technical education, leaving such questions as the rates of wages and matters affecting trades unions in London to be dealt with by the London Master Builders' Association. The first President of the Institute of Builders was Mr. Stanley Bird, and without forgetting the great men who were associated with him at the time, it was not too much to say that to Mr. Stanley Bird was chiefly due the existence of the Institute. One matter to which the Institute had given much attention was the issue of a standard form of building contract which should be fair and acceptable to architects and builders alike. Such a form was in use from 1870 to 1886, and in the latter year negotiations were begun between the Royal Institute of British Architects and the Institute of Builders, with the view of arranging a new form, which should be more adapted to modern requirements. No agreement was arrived at until 1900, when the form was drawn up with which they were all acquainted, and which was, he thought, on the whole, a very good form indeed. He did not say it was an ideal form, and in many points it was a compromise between conflicting opinions, but as it was, it was adopted by the general meeting of the Institute of Builders, and was recommended by the Council of the Royal Institute of British Architects for adoption at the general meeting of that body. That meeting, however, refused to accept the form, chiefly, he was given to understand, on account of opposition by country architects to the inclusion of clause 16 in the arbitration clause. The effect of excluding clause 16, of course, was that a builder could raise no claim before an arbitrator for any expense he may have been put to by being directed to use materials of greater value than those provided in the specification. The Institute of Builders objected to such a provision, especially as it took away a right of appeal to arbitration which existed in the old contract, as such questions could be raised on the final certificate. However, the Institute of Builders offered to meet the difficulty by accepting the exclusion of Clause 16 if these words were added :—

"Provided always that if the contractor claims that by complying with such order he has been put to increased cost beyond the cost properly attending the carrying out of the contract according to the true intent and meaning of the D. and S., he shall be entitled to recover from the employer such an amount for increased cost as the arbitrator, in case of difference shall, on the completion of the works, decide to be fair and reasonable."

The Royal Institute of British Architects refused this suggestion, and declined to discuss the matter any further. The Royal Institute of British Architects and the Institute of Builders then each issued the form of contract which had been so far agreed, except that the latter was verbatim, and the former excluded Clause 16 from arbitration. The Royal Institute of British Architects treated them with great courtesy throughout, and he thought they were as much disappointed as the Institute of Builders at the barren result. On the controversy as to Clause 16, a criticism was made that builders evidently wanted to be masters of the building instead of the architect. In answer to that he might say they did not suggest in any way to interfere with the power of the architect to decide what materials shall or shall not be used in his work. What they wanted to secure was, that if, by the architect's directions, materials are used which are of greater value than those provided in the drawings and specification, then the builder can, in case of dispute, refer his claim for such increased cost to an arbitrator. There are many cases in which, with the best of intentions, a great difference of opinion might arise. For instance—a building was specified to be faced with salt glazed bricks; the employer got hold of a sample of brown enamelled bricks, and on the builder asking for extra if those were used, the architect said bricks such as the sample were intended and must be used, and there should be no extra. Now with Clause 16 specially exempted from arbitration, where was the builder? The claim could not go to the arbitrator—the employer saw to that. The architect had decided hastily, and so was caught, as it were, between the devil of his own words and the deep sea of the contract, and the builder was left. That was the sort of thing they wished to guard against by making Clause 16 subject to the provisions of the arbitration clause. Now, the reason why

they wanted an agreement in the form of contract was that unity was strength; the forms issued separately by the Royal Institute of British Architects and the Institute of Builders did not either of them meet with general acceptance, but a form issued with the approval of both architects and builders would be very generally adopted not only by individual employers, but by public bodies, and would gradually supersede the varied and in many cases objectionable forms now in use. He was glad to hear that the National Federation of Builders had now taken this matter up. There was also the proposal of the National Federation to add optional clauses to the builders' form of contract which would apply in cases where the quantities are made part of the contract. This arrangement did not obtain generally in London, but was frequent in the provinces, and the gross injustice done in the case of Ford *v.* Bemrose showed how very necessary it was to have a reliable form of contract which should include the quantities. As to technical education, this had been taken up most efficiently by various societies, but there was one branch which, as far as he knew, had not received much attention, and that was the builder's clerk. He thought they might with advantage establish some kind of examination and certificate for this most valuable and necessary body of men. Considerable objection had been raised to an innovation made by some public bodies of requiring fully-priced bills of quantities to be sent unsealed with builders' tenders, especially as the quantities are tabulated and the prices compared in detail. He was in communication with Mr. Lough, the President of the Association, on the subject. The work of the Institute had progressed steadily during the year; seventeen new members had been enrolled, and they had lost one by death—Mr. Alfred Bush, who had been a member since 1889. Thanks were due to the members of the Council, with its Committees, who had given much time and attention to the affairs of the Institute, and especially to Messrs. Shepherd, Dove, and C. Wall, the Sub-Committee on Conditions of Contract. In Mr. Costigan they had a most able and indefatigable Secretary. The future of the Institute was with the young men, and he appealed to them to take up their share of the burden and carry forward the good work of the Institute.

Mr. William Shepherd then proposed the toast of "Architects and Surveyors," coupled with the names of Mr. Aston Webb, A.R.A., and Mr. Arthur Vernon. The architectural works carried out in recent times had been as important and as well-adapted to the circumstances of the times as at any period of the world's history. As to the conditions of contract, the negotiations referred to by the Chairman were carried on with every endeavour by both sides to reconcile the conflicting interests, and there was an entire absence of friction. He believed that had the general body of the Institute of Architects left the matter in the hands of their Council a very different result would have been arrived at. Having regard to modern methods of building business, they regarded surveyors as an essential element in those affairs.

Mr. Aston Webb, A.R.A., in responding for the architects, said it was to be regretted that at the present time a form of contract had not been arranged between architects and builders; but when he heard from their Chairman that the main object for which the Institute of Builders existed was to arrive at a complete form of conditions of contract, he felt he should be sorry if the Institute of Architects should interfere with the occupation of the Institute of Builders. Seriously, he could say on behalf of the Institute of Architects that the long negotiations which had taken place left no ill-feeling behind; there was no friction. For the moment they must regret that they had not completed their task, but on the other hand he thought they might say that a great deal had been done towards a complete form of contract, for with the exception of one or two points—important points, it was true—there was a large number of clauses on which they were all now agreed. The Council of the Institute of Architects thought it was inopportune at this moment to bring this matter again before the general body of members. Speaking for himself, he hoped they might be able to arrive at some understanding in the future, as reasonable men. He would like to say a word or two on the A B C of building—the architect, the builder, and the client. No properly regulated building could be put up without those three. As Mr. Hare had said, architects had tried occasionally to be their own builders, but generally they made a mess of it; builders had often tried to be their own architects, but when he walked through the suburbs of London he confessed he thought they, too, made a mess of it; clients had from time to time tried to be their own architects and builders, and it would be agreed that they always made an egregious mess of it. That showed how dependent they were one on the other. If a building were well designed and conveniently planned, but badly built, it would tumble down; but if, on the other hand, it were badly planned, and built as well as it could be built, it would undoubtedly come down sooner or later. Therefore, in order that a building should be satisfactory to everybody, builders and architects were equally interested in securing a good and perfect building, and the more they knew each other and the more they worked together the more likely would the client be satisfied. On one occasion when he was signing a contract the client said: "Now look here; are you my man or the builder's?" and he had to explain that while it was his duty to watch his client's interests, it was also his duty to represent to the client the builder's side of the matter. In that instance the client saw the force of that, as clients usually did when the matter was put before them in a reasonable way; they saw that an architect should (and did when he did his duty) see fair play on both sides. Clients required three things, *i.e.*, that their building should be well built, quickly built, and as economically built as it could be, and those three requirements architects and builders had to try and meet. If clients were prepared to pay for it, there was not the least difficulty in getting a building well built, and he agreed that buildings were as well built now as they ever were—when they were properly paid for. But, with regard to the two other requirements, that was a much more complicated matter. A building that was quickly built was usually cheaply built—that was to say, it was cheaper to the builder to build it quickly, and no doubt he wished to build it quickly; but the difficulty in his way (and no one sympathised with him more than the architect) was in providing the special materials such as ironwork, terra-cotta, glazed bricks, &c., those difficulties were very great, and were continually on the increase, especially as to the ironwork, for which the builder was often compelled to wait a most unreasonable time. Such delay architects and builders would like to avoid, but he did not know how they were to do so. As to the cost of building, the great difficulty was as to labour, and there also architects sympathised with the builder in his difficulties. He was inclined to think that were he a builder he should take this course: he would not consider so much the wages of a man, but he would endeavour to break down the idea that all men must be paid alike. He would endeavour to make a workman realise that if he were a good workman, in the case of a bricklayer, for instance, laid a larger number of bricks than another man, he would be paid more for doing so. He would go with the trade-unions in increasing the wage for work fairly and properly done; but he would fight to the end the trade-unions in the matter of limiting the output. It was not right or just to the men or the client that men should be permitted to waste their time, and encouraged to waste their time, and not to do fair work for their employers.

Mr. Arthur Vernon, in replying for the surveyors, said he hardly knew where surveyors came in in the "A B C" of building as laid down by Mr. Aston Webb. Really the builder's industry was the most ancient of all industries. It might be said that architects were evolved to save the builder's brains when he had too much work to do, and the surveyor was evolved to save his pocket. He used to wonder why Longfellow seemed to be so severe on modern architecture, as he was in his lines:

> "In the elder days of Art
> Builders wrought with greatest care
> Each minute and unseen part
> For the Gods see everywhere."

He never understood that until he went to America and saw the log hut and the wooden house of the poet. Then he realised that Longfellow was looking at it from the American point of view, and was not thinking of the modern European buildings. Many fine buildings were erected nowadays. The business of the modern builder was a laborious one, and he suffered many masters; there was the architect, the employer, the County Councils, and not least the trades-union workman.

Mr. B. I. Greenwood then proposed the toast of "The Learned Societies and Technical Institutions," coupled with the name of Sir H. Trueman Wood. He said he was not greatly prepossessed with technical institutes, for he believed that the old system of apprenticeship turned out better workmen than did the technical institutes; but as it was possible that the system of apprenticeship had practically died out before the era of technical institutes, no doubt they came forward to supply the want, and, if so, they were to be welcomed. As to the form of contract, when the Institute of Builders issued their own form, after negotiations came to an end between the two Institutes, the National Federation of Builders felt that the subject was far too important to be allowed to drop, and so, with the knowledge of the Institute of Builders, they approached the Institute of Architects with a proposal which, he believed, would meet with the difficulties which existi; and in reply to that, the Institute of Architects had intimated that the present time was not opportune to reopen the matter, but they did not say that the new proposal was not agreeable. He was glad to hear from Mr. Aston Webb that a favourable result might yet be arrived at, and he ventured to hope that the time would soon be opportune. Mr. Webb deprecated the payment of the same wages to workmen irrespective of the result of their work, which meant that Mr. Webb favoured payment by results, or the piecework system. That might sound horrible. If the practice of limiting the output of workmen was to be killed, the only remedy was to allow contractors to pay workmen by the results of their work. It would have to come to that, however horrified people might be at the suggestion now.

Sir H. Trueman Wood, in response, referred to the work done by voluntary scientific and artistic societies—for instance, the Institution of Civil Engineers, which had done so much to raise the status of English engineers, and had been of benefit to the public also. It was the same with other societies and institutions. As ratepayers they felt annoyance at the rapid growth of the rates, but for his part he would welcome an addition in London if the County Council, instead of promoting Bills which had no interest for him, would build a municipal hall suitable for a city like London. He was sorry that the Adelphi scheme had fallen through, and he felt sure the ratepayers would welcome any scheme which would result in the provision of a beautiful and suitable hall in London.

Mr. Henry Holloway then proposed "The Visitors." Speaking of the subject of conditions of contract, he said that, after all, it was the man they had to deal with. With most architects he had to deal with he would just as soon work without conditions of contract at all; it was against a small number of architects they wished to protect themselves.

Mr. Silvanus Trevail, in reply, said there should be mutual reciprocity and confidence between architect and builder and client. If the client confided in his architect and the architect confided in the builder, the result would be the best possible. He had had thirty-one years' experience as an architect, and he had never had to go to law or to arbitration, although he had had a great many difficult questions to deal with. It was possible to get over such difficulties without these onerous forms of contract, some of which he would not sign if he were a builder. He would not put himself in the abject position of doing so. As a Fellow of the Institute of Architects, he was surprised that the conditions proposed by the builders had not been agreed to, but he believed that it would not be long before Clause 16 was agreed to. As to the modern system of tendering, he did not believe in it. No matter what work a man had done, he was put in competition with some one who had no reputation to lose. That was not fair to the man who had made a name for good work. He advocated a selected list from which to select in the case of important works. Small works could be put out to tender.

A musical programme was then gone through.

SANITARY INSTITUTE:

AWARDS MADE AT THE HEALTH EXHIBITION, MANCHESTER.

THE following are some of the awards made at the Health Exhibition recently held at Manchester in connexion with the Sanitary Institute Congress:—

Silver Medal.

British Sanitary Co., Glasgow (self-acting earth-closet).

Cannon Iron Foundries, Ltd., Deepfields, near Bilston (enamelled cast iron).

J. Defries & Sons, Ltd., Houndsditch, London (saturated steam disinfector).

William M. Glover & Sons, Ltd., Warwick (dust van).

Horsfall Destructor Co., Leeds (Horsfall destructor).

John Jones, Carlyle Works, Chelsea, London (automatic air-tight manhole cover).

Mather & Platt, Ltd., Salford Iron Works, Manchester (water-softening apparatus).

Vernon Parker, Westminster, London (Hassall's improved safety-pipe joint).

Shanks & Co., Ltd., Barrhead, Glasgow (cast iron porcelain-enamelled bath with quick accessible waste).

W. Summerscales & Son, Ltd., Keighley (laundry machinery).

Bronze Medal.

Ames Crosta Sanitary Engineering Co., Ltd., Nottingham (Crosta's surface water gully, with complete double trap. Stoneware conduits for electric cables).

Burn Bros., Charing Cross, Whitehall, London (improved ball stoppers).

Chalmers & Co., Redhill (two-wheel dust cart).

Geo. A. Chaddock, Liverpool (reversible locking window).

Didelon & Co., Rue Laugier, Paris (automatic discharge regulator for sand filters for water purification).

Doulton & Co., Ltd., Lambeth, London (spray lavatory with self-regulating valve).

J. Duckett & Sons, Ltd., Burnley (flushing tank and tipper, isolated syphonic latrines).

Ewart & Son, Ltd., Euston-road, London (improved geyser apparatus with flue and dual valve).

William E. Farrar, Birmingham (adjustable bracket, bead rim lavatory basin, lattice gear quick-opening valve).

Fireproof Plate Wall Co., Ltd., Corporation-street, Manchester (fireproof partition walls).

Fletcher, Russell, & Co., Warrington ("Hurst" pipe joint).

William H. Gibbs, New Brompton, Kent (spiral drain scraper).

Wm. M. Glover & Sons, Ltd., Warwick (rotary watering van).

Hard York Non-Slip Stone Co., Halifax (non-slip materials).

Wm. Harriman & Co., Ltd., Newcastle-on-Tyne (Ford's stable channel).

George Howson & Sons, Ltd., Hanley (urinals, white porcelain-enamelled fireclay bath, washtubs on pedestals).

John Jones, Chelsea, London (connexion for water-closet basins to soil-pipe, air inlet ventilator for drains, the "Carlyle" wash-down pedestal closet).

Frank Nicholson Law, Hollinwood (improved dry seat).

Loco Drainage Apparatus Co., Ltd., Manchester (rust pockets).

London Tablet Co., Sydenham, London (non-absorbent wall and ceiling covering).

Mather & Platt, Ltd., Manchester (feed water filter, automatic distributing and flushing valves).

Matthews & Yates, Swinton, Manchester (fans for ventilation).

Mellowes & Co., Sheffield (Mellowes "Eclipse" glazing).

J. Oakes & Co., Alfreton, Derbyshire (glazed stoneware pipes).

Oates & Green, Ltd., Halifax (salt glazed manger, with "Give-and-Take" fastener).

C. W. Outram & Co., Woodville, near Burton-on-Trent (the "Hassall" watercloset).

E. R Palmer, Beckenham (ventilating column fitted with water fan).

Vernon Parker, Victoria-street, Westminster, London (silica filter for attaching to a domestic tap, blue brickware drainpipes).

Patent Regenerative Furnace Co., Ltd., Coleman-street, London, E.C. (apparatus for the prevention of smoke in steam boilers).

Pendleton Sanitary Engineering Co., Pendleton' Manchester (movable ash-bin with metal cage).

Richard Ravenor, Newbury, Berks (Ravenors, drain tester).

Sanitary Appliances Syndicate, King William-street, London, E C. (non-ball valve cylindrical store cistern; coin-receiving lock).

Shanks & Co., Ltd., Barrhead, Glasgow (hospital lavatory).

Slack & Brownlow, Gorton, near Manchester (germ filters).

Sharratt (the executors of the late Wm.), Clayton, Manchester (sanitary formaldehyde regenerator).

A. G. Thornton, Deansgate, Manchester (surveying and drawing instruments).

Thos. Henry Tonge, Irlams-o'-th'-Height, Pendleton, Manchester (bakery fittings).

George Barber Wilson, Brierley, York (gully and trap dredger).

THE SANITARY INSPECTORS' ASSOCIATION:

THE QUESTION OF UNIFICATION.

AN extraordinary general meeting of this Association was held on Saturday at Carpenters' Hall, London-wall. Sir James Crichton Brown presided.

After the transaction of routine business and the election of a number of new members, the newly-elected member of the council (Mr. I. Young) delivered his inaugural address.

In introducing this part of the business of the meeting, Sir James took the opportunity to thank the members for his re-election to the presidency. The office was not, he said, a burden, but a decoration. He had a most pleasant recollection of his office during the past year, and he was sanguine of a pleasurable one to come.

Mr. Young in his address said that if there was one question more than another that he would like to see settled during his year of office it was that of the unification of all sanitary inspectors' associations. The question was, he admitted, surrounded with complexity, but he was satisfied that until that end was achieved the great object for which the Association was formed would, more or less, remain at a standstill. He believed that every member was anxious for it. He congratulated the meeting on the fact that Sir James Crichton Brown had once more accepted the office of President, and would continue the good work in public hygiene done by their first President, Sir Edwin Chadwick. As the Association had been enlightened and dignified by Sir James' presidency, let them prove worthy of it. There could be no doubt that the status of the sanitary inspector had been improved owing to the existence of that Association. Nevertheless, they had not achieved a position which their duties entitled them to. Such security as was enjoyed by medical officers of health should, for instance, be given to the sanitary inspectors. Those in London were somewhat more favourably situated than those in provincial towns. The latter were generally subjected to the condition of annual appointments. What was required also was the establishment of a State department of public health. The time was, he held, past when the question of public health should be left as it is, and cases of non-compliance with the Statute should be heard and determined by a specially arranged bench of justices, some of whose members should have technical knowledge. It might be said that they had the Local Government Board controlling the question of public health; but this Board had duties so voluminous that the demand for the creation of a separate department was justified. Having referred to the sanitary officers' superannuation scheme, which was being promoted for Parliament, Mr. Young touched upon the necessity for the appointment of a small committee to deal with any measure brought before Parliament. This duty at present devolved upon the General Purposes Committee. He advocated the appointment of a Law and Parliamentary Committee to deal with Bills. One thing they ought to strive for was to secure for Sanitary Inspectors the power to serve notices under the Public Health Act for the abatement of a nuisance on their own authority. There were many other matters in which the committee might take action. They must also strive to obtain direct representation on the Sanitary Inspectors' Examining Board. He was also inclined to the idea that they had not availed themselves of the powers they possessed to become an educational authority, and he felt that they should, either alone or in conjunction with another body, institute educational classes. Then, again, he desired to urge that some provision should be made for the Widows and Orphans Fund by means of a fixed yearly subscription.

The President, in opening the discussion, alluded to Professor Koch's recent observations at Berlin on the transmissability of bovine and human tuberculosis. The Professor was, Sir James noted, a little more guarded than he was at the London Conference of 1901. Dr. Koch's authority was so great that had not a commission been promptly appointed a dangerous doctrine would have been accepted without adequate grounds. The Commission was proceeding with its deliberations, but possibly its conclusions might be anticipated by the researches of Dr. Mocard, Professor Delapine, and Dr. Boyce, which made it almost certain that human tuberculosis was capable of being transferred to animals.

ARCHITECTURAL SOCIETIES.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.—The annual Report of the Birmingham Architectural Association is accompanied by some very good sketches, by various members, of some of the old buildings visited during the session. The Report mentions that there has been a substantial increase during the past year in the number of members. While recording that the attendance at the meetings has shown a marked improvement, owing no doubt to the better accommodation afforded by the new premises, the Council have still to regret the absence of so many of the senior members from the general meetings, and hope that in the forthcoming session an effort will be made by them to give the lecturers a hearty welcome and to assist in carrying on the discussions which usually follow the lectures. "The lecturers are usually well known, and the subjects they choose are invariably of practical value; they must necessarily expend a considerable amount of time in the preparation, and in coming to Birmingham to give their lectures, and it is due to them that a large proportion of the senior members should be present, to increase the interest in the discussion and add to the success of the meetings. . . . Your council have again found it necessary to forward a protest to the new Housing Committee of the Birmingham Corporation, urging that municipal architectural work should be competed for in open competitions; they received in reply a letter from the chairman promising consideration for the views of the Association when any new building schemes were promoted."

MANCHESTER SOCIETY OF ARCHITECTS.—The Report of the Manchester Society of Architects shows that the present number is 193, as against 182 last year. The proposal to create a Chair of Architecture at Owens College has received much and careful consideration at the hands of the Council, and during the past year several conferences have been held on the subject. The visits arranged by the Education in Architecture Committee for the summer of 1901 were well attended, and some very good sketching work was done by students. The three days' visit to Caudebec, in Normandy, was an altogether delightful experience for the nine members who went. Other sketching visits were paid to Lichfield, Baguley Old Hall and the new hospital near it, and Port Sunlight, near Liverpool. A week-end was spent at Cartmel, with a day at Furness Abbey; and a visit was made to Bury to see the New Art Gallery and Library and other buildings in that town. Since the Report was presented, the summer visits of 1902 have been held, and the attendances again have been fairly good. Whit-week was chosen for another visit to Normandy. Caen was the headquarters, and Bayeux, Lisieux, Norrey, Ouistreham, Langrune, Bieville, Harfleur, and the fine Abbaie d'Ardennes helped to fill the sketch-books of the party. In the Report of the Competitions Committee it is stated that the Committee have formulated a scheme for appointing correspondents in the various towns in the M.S.A. area, as defined by the Royal Institute of British Architects, so that they can be informed early of any proposed competitions, and so get in communication with the promoters.

BOOKS RECEIVED.

THE GEORGIAN PERIOD: MEASURED DRAWINGS OF COLONIAL WORK. Part XI. (Batsford.)

REPORT OF DEPARTMENT OF PUBLIC WORKS, NEW SOUTH WALES. (W. A. Gullick; Sydney.)

FACTS ON FIRE PREVENTION: The results of Fire Tests conducted by the British Fire Prevention Committee. Edited by Edwin O. Sachs, architect. (B. T. Batsford.)

ARCHITECTURE, INDUSTRY, AND WEALTH: Collected Papers by William Morris. (Longmans, Green, & Co. 6s.)

WOOD: A Manual of the Natural History and Industrial Applications of the Timbers of Commerce. By G. S. Boulger, F.L.S., &c. (Edward Arnold.)

Illustrations.

LIVERPOOL CATHEDRAL: A SKETCH DESIGN.

THIS is the design which was numbered 38 in the Liverpool Cathedral Competition, and to which we drew attention in the review of the exhibited drawings in our issue of July 26, as a design of unusual power and originality. It turns out to be by Mr. Leonard Stokes, under whose name it is now published.

The design must, of course, be regarded as a sketch rather than a finished work. In regard to the motives which governed it, Mr. Stokes says (and we quite agree with him) that he felt that the quarry side, and not the street side, was the real front of the cathedral; it faces open ground with a sudden and nearly precipitous drop, affording great opportunity for architectural effect; and therefore he considered the exterior of the building mostly from this side. In the interior he has endeavoured to get a wide nave for crowds of worshippers, and the triforium he thought would make a good local museum for objects of ecclesiastical interest, without interfering in any way with the portion of the building devoted to worship. (In fact, in one or two of our cathedrals the triforium actually is to some extent used in this way).

The twin towers, it was thought, would have a fine effect from the river, as the site stands so high. The plan, however, was the important part in the designer's mind, the elevations not having been thoroughly worked out for want of time. As it stands, however, we think most of our readers will admit that it is a fine and bold conception, with considerable novelty of idea.

A HOUSE IN OXFORDSHIRE.

THIS is a drawing which was exhibited at the last Royal Academy exhibition. The architect, Mr. C. Maresco Pearce, writes in regard to it:—

"I have kept pretty much to the traditional type of the smaller Elizabethan manor house. The materials are such as are found in the western part of Oxfordshire, *i.e.*, squared rubble walling, ashlar for the bays and dressings, and Stonesfield slates on the roofs."

MONUMENT TO THE LATE J. L. PEARSON: WESTMINSTER ABBEY.

THIS monument which has been placed in the centre of the nave floor in Westminster Abbey, was designed by Mr. W. D. Caröe, and the drawing from which the illustration is taken was exhibited at the last Royal Academy exhibition.

The monument has been executed in cast bronze laid in a bed of Derbyshire fossil. It was considered desirable to obtain a higher relief in the metal than engraving would have provided.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday afternoon in the County Hall, Spring-gardens, Sir J. McDougall, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee it was agreed to lend Hackney Borough Council 1,560*l.* for granite paving; Camberwell Borough Council 3,700*l.* for paving works; Chelsea Guardians 600*l.* for additions to casual wards; Metropolitan Asylums District 253,600*l.* for various purposes; and Westminster City Council sanction to a loan of 92,590*l.* for street improvement.

Receiving Houses for Lunatics.—The Asylums Committee reminded the Council that in July, 1899, they approved the principle of the establishment of receiving houses for lunatics in the county of London. The Committee now submitted a scheme for providing four such houses in the north, south, east, and west, each capable of containing some 300 patients and the necessary staff. These receiving houses would entirely supersede the lunatic wards now attached to the workhouse infirmaries, and no stigma of pauperism would attach to patients discharged from them. An ambulance system would be established for bringing and removing patients. The Committee recommended that steps be taken to obtain Parliamentary powers next Session.

The Finance Committee pointed out that the full scheme involved an expenditure of 500,000*l.*, and suggested that the Council should proceed experimentally, one receiving house being completed before another was commenced. Apart from the consideration that an undertaking of such magnitude should be proceeded with cautiously, the Committee felt compelled to again remind the Council of the many schemes, involving large outlays, to which it was already committed.

After some discussion, the Committee's recommendation was adopted.

The Fire in Queen Victoria-street.—The Fire Brigade Committee submitted an adjourned Report on the fatal fire which took place in Queen Victoria-street last June. The Committee pointed out that the rescue of many persons from a height by means of movable fire-escapes must necessarily be a slow process, and could not be compared as regards efficiency with the protection afforded by structural fire-escapes. Reference was made to the unsatisfactory condition of the Factory Act, and to the desirability of making the London Building Act retrospective as regards the provision of means of escape from high buildings.

Alderman Alliston asked whether the question of the enlargement of the Watling-street station or the provision of a central fire station in the City, at or near Watling-street, was under consideration.

Mr. Allen, Chairman of the Committee, replied that the subject was at present before the Committee.

Mr. Austin moved that the Report be not received, on the ground that it was incomplete, especially as it contained no recommendation with regard to the men who were in charge of the fire-escape. He thought there was a want of alacrity and alertness on their part.

Mr. Sankey seconded the amendment. He regarded the Report as lamentably insufficient. Since the fire the Committee had been purchasing several long ladders, showing clearly that it was possible for them to be used in the City. The question of the inadequacy of the Watling-street station had been before the Committee in 1897, when the chief officer made strong recommendations with regard to it, but they did not appear to have been acted upon. He claimed that the City should receive adequate consideration from the Fire Brigade Committee.

Colonel Rotton declared that the Committee were constantly considering the City. They were always considering schemes of improvement, but they deprecated panic legislation.

Captain Hemphill argued that no amount of expenditure on the fire brigade and no improvement of appliances would guarantee the safety of life and limb unless the Factory Act was so amended as to compel the owners of all properties to provide proper means of escape from fire.

Mr. Howell Williams pointed out that in their Report the Committee aimed chiefly at exonerating themselves. From a recent visit to New York he was persuaded that in fire appliances, and especially jumping-sheets, that city was far ahead of London.

Mr. Gilbert declared that all new appliances were considered by the Committee. He complained of recent newspaper reports and comments on the conduct of Captain Wells.

Mr. Allen defended the action of the brigade at the fire, and, after further debate, the amendment was negatived.

The Report was then received.

Culs de Sac in the City of London.—The same Committee reported as follows:—

"The Council may remember that in our Reports, dated June 10 and July 15, 1902, on the large fire which occurred in the Barbican on the night of April 21, 1902, special allusion was made to the fact that the Brigade was placed at a disadvantage in coping with the conflagration inasmuch as it was unsafe to place men and appliances in New Zealand-avenue, a *cul de sac*, the entrance to which was opposite the premises in which the fire started. In our second Report we stated that we shared the Chief Officer's opinion that the existence in the City of London of many *culs de sac*, of which New Zealand-avenue is by no means the worst example, constitutes a grave source of danger, and we mentioned that we were consulting the Building Act Committee generally on the subject. That Committee have now informed us that New Zealand-avenue was laid out in 1886 without application to, or sanction from, the then existing Metropolitan Board of Works, and that the by-law, dated May 1, 1857, as to the formation of new streets in the Metropolis was not complied with in respect of New Zealand-avenue. The Building Act Committee further state that having regard to the provision of Section 9 (4) of the London Building Act, 1894, the Council would not now be entitled to refuse its consent to the formation of a street within the City on the ground that it would constitute a *cul de sac*. No list of the *culs de sac* in the City appears to be in the Council's possession, and the preparation of a correct and complete list would necessitate a careful survey, but from an examination of the Ordnance sheets there would appear to be at least forty-five such places within the City. Although the Council has no statutory authority to deal with the matter, we consider it advisable to report these facts for the Council's information."

Vauxhall Bridge.—The Bridges Committee submitted a further Report recommending that the resolution of 1898, directing that the new Vauxhall Bridge should be a granite bridge backed with concrete, be rescinded, and that a steel bridge be substituted. An estimate of 170,000*l.* for the superstructure was presented, making the total cost about 350,000*l.*

Consideration of the Report was deferred.

Theatres, &c.—On the recommendation of the Theatres and Music Halls Committee, the following applications were agreed to:—

Balham Empire.—Alterations, submitted by Mr. H. Percival for Mr. A. W. Deer.

London Exhibitions.—Arrangements for a boating exhibition, submitted by Mr. A. O. Collard.

Olympia.—Arrangements for Wild West show, Messrs. Bull & Bull.

Amendment of London Building Act, 1894.—The Building Act Committee submitted the following Report:—

"It will be within the recollection of the Council that in consequence of the disastrous fire at No. 67, Queen Victoria-street, the Home Secretary was asked in Parliament whether he intended to take steps by legislation or otherwise to secure the safety from fire of persons employed on the upper floors of high buildings. It will also be recollected that the verdict of the coroner's jury at the inquest held in connexion with this fire contained a rider to the effect that the London Building Act, 1894, should be made retrospective.

During the summer recess a letter was received from the Home Secretary stating that in view of the facts disclosed in the inquest above referred to, he thought that the question of further legislation on the subject of safety from fire in high buildings required early consideration; that in his opinion the matter could not be adequately dealt with by a mere extension of the powers of the Council under the Factory and Workshop Act, 1901, and he was therefore disposed to think that any new legislation should take the form of an amendment of the London Building Act, 1894; that as this Act was a local Act any amendment of its provisions would naturally be by a private Bill promoted by the Council, and that he would be glad to assist in any proposal that might be made for that purpose next Session so far as it might be possible for him to do so. In order to ascertain what measure of support the Council might expect to receive from the Government if it decided to introduce a bill to amend the Building Act, our Chairman and Mr. Goddard Clarke had an interview with the Home Secretary, who has since informed the Council that he would have no objection to the extension to existing buildings of the clauses with respect to means of escape from fire, under proper conditions and in suitable cases, provided adequate provision were made for allowing the owners or occupiers of existing buildings an appeal to an arbitrator or to some other tribunal; and, further, that he was of opinion that provision should be made to prevent any overlapping of the requirements of the London Building Act as proposed to be amended and those of the Factory and Workshop Act.

We would point out that we have for some time past had in view the question of amending the London Building Act generally, as the experience gained by eight years' administration has shown us several points which need amendment. We had not, however, intended proceeding with the question this year, and when the letter from the Home Secretary, received in August last, was considered by us after the recess, there was evidently not time to introduce a Bill in the next Session of Parliament dealing with the general question, bristling as it does with technical difficulties of all sorts. It appeared to us, however, that the Council would desire to avail itself of the support promised by the Home

Secretary, and that we ought, therefore, to prepare proposals to amend the provisions of the Act dealing with fire prevention and the means of escape from fire. We have accordingly gone very carefully into the matter, and, as the result of repeated discussions, have prepared proposals, which, if adopted, will, we think, have the effect of greatly diminishing the risk to life from fire. Briefly stated, the object of our proposals, which are necessarily very technical, is to secure a reduction in the height above which the provision of special means of escape can be required in the case of new buildings (not being factories or workshops coming within the provisions of Section 14 of the Factory and Workshop Act, 1901, or common lodging-houses coming within the Common Lodging-houses Acts), and, after a certain date, the application of similar provisions to existing buildings; the provision of means of escape from new, and, after a certain date, existing buildings (not being factories or workshops coming within the provisions of Section 14 of the Factory and Workshop Act, 1901, or common lodging-houses coming within the Common Lodging-houses Acts) in which a considerable number of persons are employed or in which sleeping accommodation is provided for a considerable number; additional powers in regard to premises used in part for the purposes of trade or manufacture and in part as dwelling-houses, especially where the part used for trade projects from the front of the building (as, *e.g.*, in a one-story shop); powers to regulate the use of match-boarding and panelling as an internal finishing to walls, &c.; and the enclosing of lifts in buildings. We may state in compliance with Standing Order No. 365 that we are advised by the Solicitor that the Council has power to promote legislation for the purpose in question. . . . . We recommend :—

"(*a*) That standing orders Nos. 363 and 364, limiting the period for considering applications to Parliament, be suspended so far as may be necessary to enable the Council to consider the following recommendation with reference to an application to Parliament in the session of 1903—

(*b*) That a Bill be introduced into Parliament in the session of 1903 to amend the provisions of the London Building Act, 1894, relating to safety from fire on the general lines indicated in the foregoing report of the Building Act Committee."

After a short discussion, the recommendations were agreed to unanimously.

Underground Railways.—A special report was submitted from a joint meeting of the Parliamentary, Highways, Housing of the Working Classes, and Finance Committees, as to the advisability of the Council promoting in the next Session of Parliament a Bill on the subject of underground railways in London. After consulting the officers of the Council, the meeting arrived at the conclusion that even if it were desirable, it was impossible within the time limited by the standing orders of Parliament for the Council to promote, in the ensuing session, any Bill which would require the deposit of plans and sections, and a book of reference. The report went on to say :—

"We have therefore had to consider whether some other means can be taken to act on what we believe to be the object of the Council, namely, to secure that Parliament shall not again be placed in the unsatisfactory position, in which it has recently found itself, of having to deal with certain piecemeal schemes of private promoters, without having any opportunity of considering the problem of London locomotion as a whole, or being able to consider alternative proposals put forward on behalf of the public and in its interests only. We have come to the conclusion that the most effective method open to us is to invite the assistance of the Government. It is true that the Council has on a former occasion, at a time when the tube railway schemes were in their initiatory stages, approached the Board of Trade and made a similar request without success, but we cannot help thinking that the extraordinary sequel to the deliberations of Parliament which has recently been brought about by the disagreements between rival promoters must have influenced the minds of those in authority, and that the Board of Trade may now look with greater sympathy upon the plea that no more tube railways shall be authorised until the whole subject shall have received fuller and wider consideration than has hitherto been accorded to it. We are strongly of opinion that the Council should press for an immediate and complete inquiry into the whole subject, and that in the meantime no further projects should be allowed to proceed in Parliament.

We therefore recommend the Council to pass the following resolution: 'That, with a view to obtaining such inquiry as above mentioned, a deputation do wait upon the President of the Board of Trade and ask him to assist in obtaining the appointment of a commission to hold such inquiry, with power to consider all proposals that may be brought before them for the construction and supervision of underground railways in London, and to report as to the desirability of establishing some authority to prepare and issue provisional orders for confirmation by Parliament authorising the construction of such underground railways as such authority may be satisfied will be for the public benefit, and in the meantime to use his influence to obtain the suspension of any Bills that may be introduced into Parliament for the construction of tube railways in London.' In order that the Council may be in a position to lay full information before the Commission, we have instructed the officers to prepare a complete scheme of locomotion for London, and in particular to report as to what proposals would be most likely to relieve congested and insanitary districts, provide the best means of opening up new areas, and afford the greatest convenience to the travelling public."

This report did not come before the Council until a late hour, and at the suggestion of Mr. Dickinson, chairman of the joint meeting, it was decided to postpone the consideration of it until next week.

The Council then adjourned.

METROPOLITAN ASYLUMS BOARD.

THE fortnightly meeting of this Board was held on Saturday, Mr. Henson presiding.

Acting under the authority of the Managers, the Works Committee reported that they had replied to the Local Government Board's letter requesting information as to the comparatively large cost per bed in the case of the proposed isolation hospital at Darenth Asylum. Upon this question Messrs. Newman & Newman wrote as follows:—"There appears to be some error in the Local Government Board's letter as to the cost of the hospital. They state the cost to be 7,725*l.*, whereas our estimate, exclusive of architects' and surveyors' fees, is 7,000*l.*, making the cost per bed 38*l.*, against 42*l.* stated by the Local Government Board. If the cost per bed has to include the charges of the architects and surveyors, then we think the approximate fees for the architects should be added to the cost of the Leavesden Hospital, which is being carried out by your surveyor, Mr. Dance. As regards the cost of the building, it must be borne in mind that the extra number of separation wards and male as well as female attendants' accommodation provided will, to a great extent, increase the cost per bed of this (the Darenth) hospital."

ENGINEERING SOCIETIES.

THE INSTITUTION OF CIVIL ENGINEERS.—At the first ordinary meeting of the eighty-fourth session, held on Tuesday, the new President, Mr. John Clarke Hawkshaw, M.A., on taking the chair, delivered an address to the members. Having alluded briefly to the growth of wet docks during the nineteenth century, the President passed to the main subject of his remarks, namely, the world's supply of timber. Engineers could not do without timber, and it was worth while considering whether the supply of that material was likely to continue to be equal to the demand. Important uses of timber in large quantities were for pit-props and for sleepers. It was calculated that the number of sleepers on the railways of the whole world did not fall short of 1,495 million, and a low estimate of their value was 180,000,000*l.* The substitution of metal for timber sleepers progressed but slowly, and as the maximum life of timber sleepers in England was twenty-four years, the quantity of the material needed annually for renewal of sleepers alone constituted a serious drain on the timber supplies of the world. These and other considerations emphasised the need of attention to forestry, which at present was neglected in this country. After touching upon the possible sources of supply in all parts of the world, and remarking that the only country which could be looked to for timber was Canada, and even on its resources the wood-pulp industry was a considerable tax, the President reviewed the measures which had been taken in other countries to secure the control of forests and their management on scientific principles, and expressed the hope that the labours of the Committee recently appointed by the Board of Agriculture, and at present sitting would result in removing from Great Britain the reproach of being the most backward country in respect to forestry Turning to means of cheap transport, and the services likely to be rendered in the future by steam-driven vehicles on roads, the President suggested that the time was coming when the main roads should be placed under one management throughout the country, and become a national charge instead of a charge on the local rates. Good roads, with organised steam-traction, would be more useful to farming than would light railways. Considering next the generation of power, the President referred in turn to wood fuel and its systematic production, to the increasing use of oil-fuel in locomotives and steamships, and to the various methods of utilising peat. As regards coal, apart from supplies nearer home, enormous quantities existed in China, and there was coal sufficient to meet the world's requirements for many years to come; but even if that were not the case, the increasing use of water-power was rendering the world less dependent on fuel. Water-power possessed important advantages in its cheapness and also in its certainty, which was assured as regards the minimum supply; moreover, its cost was practically independent of the fluctuating cost of fuel and labour. Up to the present it was the electro-chemical industries which had taken most advantage of cheap water-power, and some of its applications in this direction were briefly alluded to. The difficulties connected with the utilisation of water-power arose out of the necessity of storage for regulating the flow, a matter of little difficulty where lakes could be used for storage in uncultivated country, but entailing works of almost prohibitive cost where any alteration of the accustomed water-level led to interference with vested interests. The address concluded with some remarks on the relation of the biological sciences to the work of the engineer; and several instances were adduced to show how his designs and methods of construction were influenced and guided by the working of lowly forms of life. After presenting the medals and prizes awarded by the Council for the past session, the President held a reception of members and others attending the meeting in the library.

SOCIETY OF ENGINEERS.—At the meeting of this Society, held at the Royal United Service Institution, Whitehall, on Monday evening, Mr. P. Griffith, President, in the chair, a paper was read on "The Effect of Segregation on the Strength of Steel Rails," by Mr. Thomas Andrews, F.R.S., M.Inst.C.E., F.C.S. The author observed that in the course of his wide experience as consulting analytical chemist and metallurgical testing engineer to several English railway companies, he had had exceptional opportunities of studying some of the sources of weakness leading to the fracture of steel rails. In order to more fully investigate on a large scale some of the causes of the loss of strength in such rails, he undertook the present research on the effect of segregation on the strength of steel rails. In the course of his paper the author treated of the nature and primary causes of segregation in steel rails and demonstrated by elaborate chemical, physical, and high-power microscopic experiments the influences of local transverse and longitudinal segregation on the loss of strength in such rails. The position of the maximum area of segregation was also demonstrated in course of the paper. He observed that the microscopic portion of the investigation had further specially indicated some of the latent sources of weakness which occurred in segregated steel rails leading to their premature fracture in main-line service. The methods of detecting segregation were also explained and illustrated. In course of the research numerous chemical, physical, and high-power microscopic examinations were made on a considerable number of rails in which local segregation of some of the chemical constituents had been detected, and the result of the author's investigations have demonstrated that local segregation of this nature distinctly reduces the general physical strength and main-line endurance of steel rails in which segregation exists. The experiments have also indicated the relative extent of the segregation of the various chemical constituents in steel rails. Reference was also made by the author to the importance, in the interests of public safety, of detecting and eliminating from service, as far as practicable, rails having a tendency to segregated chemical composition. The author has in course of his experience examined many rails which have fractured in

main line service, in tunnels, on bridges, and on other parts of the permanent way, and he has been able in many instances to trace the cause of these fractures to local segregation of some of the chemical constituents which has led to premature physical weakness in the mass structure of the rails when under the vibratory stress caused by heavy traffic. It has been generally assumed that the chemical and physical properties of steel rails are fairly uniform throughout their longitudinal and transverse mass structure, but the author has shown in this research that such is not uniformly the case. Hence the importance of eliminating, in course of manufacture, as far as practicable, any tendency to local segregation in steel rails, which leads to non-homogeneity of structure. Some idea of the magnitude of the experiments will be obtained when it is stated that they have taken nearly seven years to carry out, and that in the course of research complete chemical analyses, physical tests, and high-power microscopic examinations have been made on a very considerable number of steel rails, the samples experimented upon having been selected from large bulks of rails as supplied to various railway companies. The general results of the research have shown the importance, in the interests of the public safety, of railway companies having careful chemical, physical, and microscopic tests regularly made on rails, selected from the bulk after delivery to the railway companies, prior to their going into main-line service, so that a tendency to a locally segregated chemical composition may be detected and avoided. Much may be done in avoiding a segregated condition in rails by having them made in accordance with the author's chemical and physical specification and tests.

THE INSTITUTION OF JUNIOR ENGINEERS.—On the 30th ult. the members of this Institution were afforded the opportunity of visiting the headquarters of the Electrical Engineers (R.E.) Corps of Volunteers, Regency-street, Westminster, and a large number availed themselves of it. They were received by the Commanding Officer, Major R. S. Erskine, and staff. A short description of the general work of the corps was first given. Their duties consist principally of the running of searchlights at different positions round the coast. There are at present nine such stations equipped with apparatus for the use of the corps, and no member is considered efficient unless he has served a period of training at one of these stations. The corps have given a good account of themselves in the operations in South Africa, and Lord Roberts has stated that by their services in supplying light for the reconstruction, during nighttime, of the damaged bridges, &c., before Pretoria, he had been able to make his entry into that town some days earlier than would otherwise have been possible. Captain J. H. S. Phillips explained the construction and working of the 25-h.p. Hornsby-Ackroyd oil engine, which is used for driving the compound wound dynamo, giving a current of 80 volts and 200 amperes. This plant is the standard set installed at the stations for instructional purposes. The facility with which the engine could be started was shown. One of the portable searchlight sets which has done duty in South Africa was connected up, and the special features of the mounting of the lamp and general equipment were indicated. Three other lamps were also inspected, and an interesting object was a small lamp used by the Boers, fitted with a shutter by means of which signalling by the Morse code could be carried out; but, as it was only of small power, its utility to any extent seemed open to question. The Morris tube range, armoury, and other departments were also shown.

BUCCLEUCH HOUSE, RICHMOND.—This property was withdrawn at 17,000*l.* from the sale by auction on October 23. The house forms a well-known feature in the view of the river-side above Richmond Bridge, and the lawn, which extends to the bank of the river, is the only break in the towing-path and right of way between Putney and Kingston. It was built about one hundred years ago, and was for a long period occupied by the Dukes of Buccleuch. Some while ago the Town Council of Richmond acquired the Terrace-gardens, an estate of which Buccleuch House and grounds constituted a portion, and sold the latter property to Sir John Whittaker Ellis, who at the same time purchased and laid out some extensive gardens on the opposite side of the river, close to the Marble Hill Estate, as part of the demesne.

APPLICATIONS UNDER THE 1894 BUILDING ACT.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Act, 1894. The names of applicants are given between parentheses :—

Lines of Frontage and Projections.

Holborn.—A projecting oriel window to the men's lodging house, Drury-lane, Strand (Mr. R. Robertson for the Housing of the Working Classes Committee of the Council).—Consent.

Hackney, North.—One-story school buildings on the playground of the Northwold-road Board School, at the corner of Geldeston-road, Hackney (Mr. T. J. Bailey for the School Board for London).—Consent.

Hampstead.—An iron and glass hood over the entrance to No. 13, Aberdare-gardens, Hampstead (Mr. J. D. Hunter for Mr. I. Goldman).—Consent.

Hampstead.—Two-story bay-windows and wood and tile pent roofs in front of proposed houses, Nos. 1 to 15 (odd numbers only inclusive), Rondu-road, Hampstead (Messrs. Done, Hunter, & Co. for Mr. H. Neal).—Consent.

Hampstead.—Projecting balconies at the first-floor level in front of three proposed houses on the south-east side of Parsifal-road, West Hampstead (Mr. E. W. Jackson for Mr. Beck).—Consent.

Lewisham.—A Baptist church on the south side of Brownhill-road, Catford, with projecting porches and tower (Messrs. J. Clark and S. Pearce for the London Baptist Association).—Consent.

Lewisham.—A house on the west side of Wellmeadow-road, Hither Green, Lewisham, abutting upon Dowanhill-road (Mr. E. J. W. Hider for Mr. F. Taylor).—Consent.

Peckham.—One-story shops on part of the forecourts of Nos. 656-672 (even numbers only) inclusive, Old Kent-road, Peckham (Messrs. Holman & Goodrham for the Royal London Friendly Society).—Consent.

Peckham.—A building on the south side of Meeting-house-lane, Peckham, westward of No. 89A (Mr. G. D. Stevenson for Messrs. C. Blyton & Sons).—Consent.

St. Pancras, South.—A building on a site abutting upon Euston-road, Southampton-street, and Warren-street, St. Pancras (Mr. E. C. Mapherson for Mr. H. Regnart).—Consent.

Wandsworth.—A block of residential flats on the east side of Egliston-road, Putney, at the corner of Erpingham-road (Mr. H. G. Leslie, for Messrs. Coleman).—Consent.

Lewisham.†—The retention of a wood and glass covered way at the entrance to No. 11, George-lane, Lewisham, abutting on Chesnut-road (Mr. C. Marks).—Refused.

Camberwell, North.—Residential flats on the east side of Langton-road, Brixton (Messrs. C. C. Lennard & Co. for Mr. F. Day).—Refused.

Hammersmith.†—A two-story addition to No. 3, Evesham-street, Latimer-road, Hammersmith (Mr. C. Moore for Mr. G. Moore).—Refused.

Haggerston.†—A warehouse, with a one-story shop in front, upon the site of No. 227, Hackney-road, Shoreditch (Mr. C. E. Jackson for Messrs. E. Lucas & Sons).—Refused.

Hampstead.—Two-story bay-windows and wood and tile pent roofs in front of proposed houses Nos. 162 to 172 (even numbers only) inclusive, Fordwych-road, Hampstead (Messrs. Done, Hunter, & Co. for Mr. H. Neal).—Refused.

Lewisham.†—Dwelling-houses on the north side of Hazelbank-road, Hither Green, with the end houses to abut upon Broadfield-road and Wellmeadow-road (Mr. R. Stewart for Mr. A. Cameron Corbett, M.P.).—Refused.

Width of Way.

Battersea.—A stable building at the rear of Nos. 64 and 66, Usk-road, Battersea, at less than the prescribed distance from the centre of the roadway of the mews at the rear of those houses (Messrs. J. A. J. Woodward & Sons for Mr. A. W. Gosden).—Refused.

City.—A one-story addition on the forecourt of No. 4, Wine Office court, Fleet-street, City, with the external walls at less than the prescribed distance from the centre of the roadway of the street (Mr. J. M. Knight for Messrs. Slater & Palmer).—Refused.

Width of Way and Lines of Frontage.

Brixton. — Buildings on a site abutting upon Canterbury-road, Pope's-road, and Industry-street, Brixton, with the external walls of the northernmost building at less than the prescribed distance from the centre of the roadway of Industry-street (Mr. W. E. Hazell for the London, Gloucester, and North Hants Dairy Co., Ltd.).—Consent.

Woolwich. — Five houses, with shops on the ground floor, on the south side of High-street, Eltham, at the corner of Park-place (Messrs. Kennard Brothers for Mr. C. F. Barratt and themselves).—Refused.

Hampstead.—A projecting wooden porch at the front entrance to the Eagle's Nest, Haverstock Hill, Hampstead, and to the erection at the side entrance in England's-lane, of a wood and glass covered way, and of a wood and glass shelter and corridor at the rear (Mr. W. D. Tucker for Mr. G. Monro).—Refused.

Width of Way and Construction.

Peckham.—An open playshed at the Woods-road Board School, abutting upon Harder's-road, Peckham (Mr. T. J. Bailey for the School Board for London).—Consent.

Line of Frontage and Construction.

Hampstead.—A wood and iron fire station building on part of the forecourt of No. 138, Maida Vale, Kilburn (Mr. C. C. Winmill for the Fire Brigade Committee of the Council).—Consent.

St. Pancras, East.—Permission to retain two wood and iron buildings on a site on the south side of Hampden-street and west side of Purchase-street, St. Pancras (Mr. E. Proctor).—Refused.

St. Pancras, North.—A wood and iron timber-drying shed on land at the rear of Nos. 19-37, Highgate-road, St. Pancras (Mr. F. Mason for Messrs. Maple & Co, Limited).—Refused.

Formation of Streets.

Hackney, South.—That an order be issued to Mr. H. Brodey, refusing to sanction the formation or laying out of new streets for carriage traffic, out of the south side of Ashenden-road, Hackney (for Messrs. A. & A. Simpson).—Refused.

*** *The recommendations marked † are contrary to the views of the Local Authorities.*

Correspondence.

LEITH PARISH POORHOUSE COMPETITION.

WE have been requested to publish the following correspondence, which speaks for itself :—

Copy of Letter from the Edinburgh Architectural Association to the Clerk to the Leith Parish Council, dated October 2, 1902.

Proposed Poorhouse at Leith.

"DEAR SIR,—Some of the members of the Edinburgh Architectural Association have brought before the Council of that body the general instructions and conditions to be observed in the preparation of competitive plans, issued by the Leith Parish Council, and have more particularly directed attention to Clauses 10, 11, 12, 13, and 14, and pointed out certain conditions which they consider unsatisfactory.

The Council has now carefully examined the clauses referred to, and begs to lay the following suggestions before the Parish Council with a view to making the conditions more equitable to competitors, and more likely to lead to satisfactory designs being sent in, and to the most suitable plans being adopted for such an important range of public buildings.

(1) Clause 10.—The labour involved in preparing the drawings to a scale of one-eighth inch to the foot is very great, and would be of no advantage to the Parish Council or its Assessor in deciding on the best design. A scale of one-sixteenth inch to the foot is suggested.

(2) Clause 11.—It is suggested that the best method to arrive at the relative cost of the various designs is to place the premiated designs in the hands of a competent surveyor to report.

(3) Clause 12.—The premiums are small and might reasonably be increased in number and amount. 150*l.*, 100*l.*, and 75*l.* are suggested.

(4) Clause 13.—While no objection can be raised to the Parish Council protecting itself in the event of the buildings not being proceeded with, it is not considered reasonable for competitors to risk so much labour and expense in the preparation of designs without an assurance that one of their number will be employed to carry out the work if it is gone on with. It is suggested further that the name of the neutral architect should be given now, so that competitors may know beforehand his position and standing in the profession.

Further, it would be more satisfactory that the Parish Council should employ the best skill possible to assist them, and that the decision of the assessor should be adhered to, and in the event of the author of the design to which the first premium is awarded being able to satisfy the Joint Committee as to his ability, fitness, and experience to act in the capacity of architect for the proposed buildings, he will be duly appointed in that capacity.

(5) Clause 14.—The commission to be paid should be 5 per cent. on the cost, and this sum should cover the services as detailed in the enclosed schedule as prepared by the Royal Institute of British Architects, and which forms the usual basis for the charges of architects both here and elsewhere.

It would further be more equitable if the premium did not merge in such commission, as the cost of preparing competitive plans is so much greater than for the usual sketch designs.

In submitting these suggestions, the Council of this Association take the liberty of enclosing a set of conditions issued for an important competition

by another public body, the terms of which received general approval. As bearing upon the points raised in this letter, attention is directed to Clauses 1, 2, 3, 8, and 13 in these coaditions.

We shall be glad if you will lay this letter before the Parish Council, and trust that they will give full weight and effect to these views of the Council of the Edinburgh Architectural Association.—Yours faithfully,

(Signed) A. HUNTER CRAWFORD,
Hon. President.

(Signed) WILLIAM M. PAGE,
Hon. Secretary."

Copy of letter from James Miles, Esq., Inspector, Leith Parish Council, to the Hon. Secretary, The Edinburgh Architectural Association, dated October 14, 1902.

New Poorhouse.

"Dear Sir,—I submitted your letter of the 2nd curt., with relative enclosures, to a meeting of this Council yesterday, when I was instructed to inform you that the Council is not prepared to reconsider the general instructions and conditions therein referred to.—I am, dear sir, yours truly,

(Signed) JAS. MILES,
Insp."

FIRE INSURANCE.

SIR,—With regard to Mr. J. Jameson Lamont's letter in your last issue, my opinion is that much good would result if some correspondents were to relate their personal experiences in connexion with fire losses. To lead off, here are a few of my own:—

1. The professional assessor is paid by the insurance companies, is under their direction, and his livelihood entirely depends upon his capacity to adjust claims advantageously for his clients. I prepare quantities for every loss I have to do with, while the fire insurance company's valuator reduces every measurement and every price that he possibly can, but any errors made by me which tell against my clients' interest are carefully ignored.

2. I fought for weeks with an insurance company of "known repute," on behalf of a public body, to get some 10*l.* added to a claim to cover contingencies (which, as eventualities proved, was more than exceeded), and only got it after spending 10*l.* worth of my time and ultimately threatening to withdraw the whole of the policies and embark on litigation, their assessor refusing arbitration.

3. Where a total loss is undoubted the assessor still insists on the fullest details being given. He then measures the work in the fullest detail, and, of course, this increases his own remuneration. Many total losses could be adjusted very economically for both sides if the assessor would accept rough-and-ready calculations. Full details mean considerable expense to the claimant.

4. A wall fell in a manufactory at a recent fire and damaged a neighbouring property. The fire was not quite extinguished, and still smouldered, but the insurance company who covered the property refused to give compensation on the plea of non-liability for consequential damage. Has a trader now to insure his neighbour's property, as in France?

5. The depreciation of machinery and utensils is a serious matter. The whole machinery in a factory was entirely destroyed by fire. The trader only got a depreciated value, and was financially unable to reinstate with the sum recovered, although he was fully insured. The old machines were in good working order. Why should a man not get the value of a new installation of machinery in the same way as he gets a new building?

6. There is constant friction with the insurance company's assessor as to walls partly damaged, and as the claimant cannot afford to wait, while the company can, there is no alternative but to settle the loss for a less sum than the just sum or go into an expensive arbitration.

7. I have this complaint also to make against the insurance companies. Whenever a certain class of risk is found not to pay, all the traders in that class receive intimation of the withdrawal of their policies. It is often very difficult to get them replaced in any good insurance company, even at an enhanced premium.

"NORFOLK."

GENERAL BUILDING NEWS.

WESLEYAN CHURCH, WORCESTER.—The new Wesleyan church and schools, erected in Pump-street, Worcester, at an estimated cost of 8,000*l.*, were dedicated recently. The new church is built of brick, with Bath stone dressings, in the Renaissance style. On the left of the main entrance is a square tower, 105 ft. high. On the right is a lesser tower, about 40 ft. high, while from the central apex, over the main entrance, is a stone cross. From an entrance in each of the towers is a stairway to the gallery. Within the church doors proper a vestibule, paved with Minton tiles, is separated from the church by a wooden screen glazed with leaded lights. The length is 70 ft. and the width 44 ft. The open seats are divided by aisles from the right and left entrances, and will seat about 600 persons. The gallery above, with accommodation for some 250 more, is supported by iron pillars. At the rear of the chancel to the left will be the organ. At the rear of the church is an assembly-room, 60 ft. by 37 ft., without the four classrooms, which are connected by folding doors. In this the Sunday-school will be held. Adjacent is an infants' school, and a room above this, of equal size, will be used as a ladies' parlour and other social gatherings. A minister's vestry and lavatories complete the equipment of the building, which is lighted by electricity and warmed by hot-water apparatus. Mr. J. Jameson Green (Liverpool) was the architect, and Mr. W. Hopkins (Birmingham) the contractor.

METHODIST CHURCH, ROTHERHAM.—A new Methodist church is being erected at Rotherham in Old Talbot-lane. The new church will have a tower and spire rising to a height of 130 ft. The roof is of open timber-work, waggon-headed. The entrance vestibule will be laid with mosaic. The church will provide sittings for about 900 persons, and will consist of nave, transepts, and chancel, with an organ in a recess at the side. A gallery will run round three sides of the church. Ministers' and choir vestries are provided, and in the basement will be a ladies' parlour, two class rooms, kitchen, &c., as well as cloak room and lavatory accommodation. The builder is Mr. Robert Snell, of Rotherham, and the architects are Messrs. W. J. Morley & Son, of Bradford.

CATHOLIC CHURCH, STROUD GREEN, LONDON.—In 1896 the Austin Canons procured plans for a new church from Canon Scoles, of Basingstoke, who was an architect before he became a priest. It was decided to carry out part of these plans, and the building of the south aisle of a church was commenced, and seating accommodation for 150 worshippers was thus provided. The Austin Canons, having used the south aisle for some time, determined to go on with the erection of the entire church with the exception of the sanctuary. The other aisle and nave were finished in due course, and the edifice, complete with the exception of the sanctuary, has just been opened. The sanctuary will be added in the future. The entire cost has been 5,400*l.* The new church is at the corner of Womersley and Dashwood roads. The church is Gothic in style. The nave consists of five bays, formed by columns and arches of stone with double lancet clearstory windows, now filled with cathedral tinted glass, which will ultimately give place to stained glass. The ceiling is panelled with wooden ribs. There is an organ gallery. The new aisle, along the north side of which is a series of arches for chapels and confessionals, is lighted by cinquefoil windows. This aisle terminates with the Blessed Sacrament chapel, fitted with a stained-glass window and an altar, the work of Mr. A. B. Wall, of Cheltenham. The church will seat 500.—*Catholic Times.*

LABORATORIES, UPPER SULLIVAN SCHOOL, HOLYWOOD, BELFAST.—The new laboratories provided in these schools in connexion with the Technical Instruction Department, were declared open on the 23rd ult. The architects were Messrs. Young & Mackenzie. The builder was Mr. Wm. Millar.

SCHOOL ENLARGEMENT, STANFORD.—The National Schools at Stanford have just been reopened after enlargement. The infant class-room has been extended so as to make it almost double its former size, and a new cloakroom has been built in place of a passage. The buildings have been carried out by Mr. Knock, of Ashford, from plans by Mr. A. Lacey.

CLUB, BYKER.—A new social club, to be known as the Byker and Heaton Union Club, Limited, was opened on the 29th ult. by the Mayor of Newcastle, at Byker. The premises are situated at the extreme end of Shields-road. The work has been carried out by Mr. W. Thompson, contractor, Byker, from designs by Mr. T. T. Hill, architect, Heaton.

EUSINESS PREMISES, ABERDEEN.—New business premises are to be erected in Broad-street, Aberdeen, for Mr. H. Gray. Mr. W. E. Gauld is the architect. The cost of the new buildings, which are to be known as Greyfriars-buildings, will be over 5,000*l.*

BUILDINGS IN ABERDEEN.—The Plans Committee of the Town Council has sanctioned the plans of the following new buildings:—Four dwelling-houses on the south side of Leslie-road for Mr. Benjamin Main, per Messrs. Walker & Duncan, architects; dwelling-house on the north-west side of Erskine-street for Mr. George Dawson, per Messrs. Sutherland & Pirie, architects; pavilion in lane on the north side of Queen's-road for the Aberdeen Bowling and Tennis Club, per Messrs. Sutherland & Pirie, architects; alterations and additions in connexion with Devanha Brewery, for Messrs. William Black & Co., per Mr. Charles Doig, architect, Elgin; addition to dwelling-house, No. 626, King-street, for Mr. John Alexander, per Messrs. Cameron & Watt, architects; alterations and additions in connexion with Rotunda Lodge, Polmuir-road, for Messrs. J. & S. Fyfe, per Mr. John Rust, architect; addition to fishcuring premises at South Esplanade West, for Messrs. Stewart, Sons, & Co., per Mr. Duncan Hodge, architect; addition to premises on the east side of Raik-road, for Messrs. Allan & Dey, per Messrs. Brown & Watt, architects; addition to fishcuring premises on the south side of Sinclair-road, for Mr. James Blair, per Mr. Duncan Hodge, architect; reconstruction and extension of boiler-house at Sandilands Chemical Works, for Messrs. John Miller & Co., per Messrs. Jenkins & Marr, architects; fishcuring premises at South Esplanade West, for Messrs. Boyd & Murray, per Messrs Cameron & Watt, architects; addition to bakery on the north side of Berryden-road, for the Northern Co-operative Co., Ltd., per Mr. R. G. Wilson architect; addition to fishcuring premises at North Esplanade East, for Messrs. Wood Brothers, per Mr. Duncan Hodge, architect; additions to fishcuring premises on the east side of Clyde-street, for Messrs. J. & G. Michie and Mr. John Lees, per Messrs. D. & J. R. M'Millan, architects.

NEW POORHOUSE, FALKIRK.—The foundation-stone of a new poorhouse for Falkirk parish was laid on the 25th ult. The building is being erected in the Blinkbonny district of Falkirk from plans prepared by Mr. William Black, architect, Falkirk, at a cost of about 20,000*l.* The new structure will replace the old Falkirk poorhouse, built over fifty years ago, and which has been considered inadequate for the purpose it serves and out of date.

PARISH HALL, SOUTH SHIELDS.—On the 29th ult. the memorial stone was laid of a new parish hall and institute which is in course of erection in connexion with St. Aidan's Church, South Shields. The building, which is to cost about 2,000*l.*, is being erected on the piece of ground adjoining the church, and provision will be made for 600 children in the Sunday-school. The new building comprises a hall 69 ft. by 40 ft., and on the ground floor there will be rooms for the various classes in connexion with the parish. The plans have been prepared by Mr. J. M. Dingle, architect, and the contractor is Mr. J. Nichol, of South Shields.

GLASGOW TECHNICAL COLLEGE.—From the annual report of the Glasgow and West of Scotland Technical College we learn that contracts, amounting to about 130,000*l.*, have been entered into for the erection of the first section of the proposed new buildings, and the ground for this section, adjoining Montrose-street and George-street, has now been cleared. The section will comprise about 72 per cent. of the whole structure, and fully three years will be occupied in its erection. The wing facing Montrose-street will accommodate the departments of natural philosophy, biology, and architecture, and part of the department of prime movers, as well as a portion of the library and several workshops for the trade classes. Two wings parallel to it will be occupied mainly by the departments of electrical engineering and metallurgy and the large examination hall, while the connecting wing will contain the remaining portion of the department of prime movers, rooms for mathematics, mining, geology, and the bakery school. The departments of chemistry and technical chemistry will extend over the whole of the top floor. The second section, which will occupy the greater part of the frontage to George-street, will provide for the departments of mechanics, machine design, civil engineering, and industrial arts, and will also contain the library, the museum, the administration rooms, and common rooms for the students and staff. The architect, Mr. David Barclay, has succeeded in designing a building requiring no extravagant expenditure on mere ornament, and providing for the ample lighting of every room, an essential condition in a building of this character. Considerations of cost and durability led the Governors to adopt red sandstone from Dumfriesshire quarries for the walls facing the streets; white enamelled bricks will be used for the other external walls, so as to secure as much light as possible for the corridors and the centre wings. With the same object, free use will be made in the interior of white tiles, which will also provide a surface that can be readily, thoroughly, and economically cleansed.

ORPHANAGE, IPSWICH.—It is proposed to erect additional buildings at Hope House Orphanage, Ipswich. Plans have been prepared by Messrs. Eade & Johns, and the work which the general committee would like to carry out would, it is estimated, involve a cost of about 800*l.* It is not proposed to interfere materially with the present structure, but to utilise a part of the present ground at the east end, where a playroom, 22 ft. by 32 ft., would be provided, and, attached to this, on the playground side, would be a lavatory and other accommodation. On the first floor a new dormitory, the size of the playroom, would be formed. The old dormitory over the schoolroom would be divided by continuing the corridor to the new dormitory, which will give on the south side a workroom 17 ft. by 18 ft., and an occasional dormitory, 10 ft. by 18 ft.

PUBLIC BATHS, GREEN-LANES, BIRMINGHAM.—The new buildings occupy an area of 2,165 square yards, and adjoin the branch free library erected in 1893 from designs prepared by Mr. Henry Martin (the architect appointed for the erection of both buildings), and is situated at the junction of Green-lane and Little Green-lane. The front or principal elevation is in Green-lane, and has been designed to harmonise in style and general character with the elevation of the free library. The front of the buildings is divided into a central two-story block, flanked on each side with the lofty and well-proportioned gable-ends of the first and second class swimming-baths. This central building provides accommodation on the ground floor for the women's private baths department, and on the first floor immediately over a committee-room has been

provided for the use of swimming clubs or for any other purpose, together with private apartments for the use of the resident money-taker, but with a separate staircase leading thereto. There are three entrances to the buildings from Green-lane, viz.:—One with a separate corridor communicating with the first-class swimming-bath and the men's first-class private baths; the central entrance communicates with the women's private baths department and the ticket-office only; the third entrance, with its separate corridor, communicates with the second-class swimming-bath and the men's second-class private baths department respectively. The roofs over the four principal bath departments are supported on cast-iron semicircular arches, with lantern roofs above. The whole of the floors throughout the several bathrooms, corridors, and promenades have been laid with mosaic terrazzo paving, with the addition of a special border of ribbed adamantine tiles laid round the promenade of each swimming-bath (next to the coping stone of the bath) for the purpose of preventing the bathers slipping thereon. The accommodation provided includes the first-class swimming-bath, 81 ft. in length by 33 ft. in width; thirty-four men's private hot and cold water baths, divided into first and second class departments, each bathroom measuring 7 ft. 6 in. in length by 6 ft. 4 in. in width, and fitted with one white enamelled bath; men's second-class swimming-bath (same size as first-class bath); women's private bath department, consisting of four private bathrooms for first-class bathers and six rooms of similar dimensions for second-class bathers. The whole of the private bathrooms throughout the establishment are fitted up with electric bells for communicating with the bath attendants, and shower baths have also been provided in each of the departments for the use of bathers making application for them. Incandescent gas lighting has also been adopted throughout the building, except in the case of the three 24-light chandeliers immediately over each swimming-bath, where the ordinary "Parkinson" burner is used. The buildings have been erected by Messrs. B. Whitehouse & Sons, of Monument-road; the ironwork has been supplied by the Griffin Foundry Co.; the enamelled bricks by Messrs. Edwards & Son, of Ruabon; the terra-cotta and pressed bricks by Messrs. King, of Stourbridge; the terrazzo paving by Messrs. Geary-Walker & Co.; the lead-light glazing by Messrs. O. C. Hawkes & Co.; the casement gearwork by Mr. Henry Hope; the sanitary fittings by Messrs. Twyford & Co.; and the granolithic work and plastering by the Birmingham Adamant Co.

NORTH BRITISH RAILWAY HOTEL, EDINBURGH.—This building, at the east end of Princes-street, which has taken nearly seven years to erect and furnish, is now completed. In 1895 the directors of the railway selected out of some half a dozen competitive plans for the hotel those of Mr. W. Hamilton Beattie, Edinburgh, who did not live to see the completion of his work. The hotel is the only building on the south side of East Princes-street above the street level. The site is on two sides 180 ft. in length, and on the other two 190 ft. The architectural treatment of the exterior of the building is a free rendering of the Renaissance period. The main elevation is to Princes-street. Here the frontage is 190 ft. in length, and the building rises six stories from the street level to a height of over 100 ft. at the crown of the roof. This elevation has for its distinguishing feature a great square tower occupying the centre of the façade, and rising to a height of 190 ft. above the street level. It has clock faces on each side. Angle pavilions, ending in cupolas, surrounded by turrets, at the roof level, flank the tower at each corner of the building. On the east elevation to North Bridge-street, there is a line of shops on the street level and a mezzanine floor above. There are four stories below the level of Princes-street; and the building being practically four square, has a central court in the interior about 70 ft. square. The principal public rooms of the hotel are on the street and first floors on the south, west, and north fronts. The main entrance to the hotel is placed in the centre of the principal facade to Princes-street. A portico flanked by twin columns surmounts the doorway, which leads into an entrance hall, 50 ft. long by 22 ft. wide, the floor of which consists of panels of marble. The ceiling of this hall is panelled in plaster, and the walls are divided into compartments by fluted pilasters. On the right of the entrance hall is the staircase hall, from which the main staircase ascends. Alongside of it are two electric elevators, which rise through all the floors. At the back of the entrance hall a short flight of steps leads to the palm court or lounge, 50 ft. square, and lighted from the top by an octagonal dome, filled with leaded and coloured glass, and panelled in plaster The principal dining-room is situated on the west front, and is 112 ft. long by 35 ft. wide. The walls are panelled in mahogany and partly in decorated plaster work. Over the entrance porch of the dining hall a band gallery has been provided. The kitchen, servery, scullery and stillroom immediately adjoin the dining-room, and to it they have two special entrances enclosed by mahogany screens and swing doors. There is a smaller dining-room. In the centre of the south front on the street floor is a writing room, 42 ft. long by 21 ft. wide, lined with a panelled mahogany dado, and on the west of the main entrance is a drawing-room looking upon Princes-street, 71 ft. 6 in. long by 21 ft. wide. The ceiling and walls of this room are panelled, and the chimney-pieces have overmantels with mirrors. The west side of the first floor is devoted to a suite of public rooms, including a ladies drawing-room, private drawing-room, and music-room. The remainder of the space on this floor is set apart as superior bedroom and private sitting-room accommodation, and the other floors of the hotel are devoted to bedrooms, sitting-rooms, and bathrooms, *en suite*, or to single bedrooms and general lavatory accommodation. On the top floor of the hotel accommodation is provided for the female staff and servants of the hotel. On the first basement below Princes-street are placed the smoking lounge, the billiard-rooms, American bar, couriers'-rooms, &c., and also lavatory accommodation. A part of the second basement is utilised as a preparatory department for the kitchen; and on this level is the arrival hall from the Waverley Station, which is in connexion with the station by means of a long covered corridor and lifts. The arrival hall is divided into six compartments, having alabaster columns supported by a dado of Numidian marble which is carried round the walls. On the third basement are the boilers for heating purposes, and stores, and the fourth basement will be used as coal stores. The principal rooms and bedrooms on the external walls have been fitted with double windows. The hotel is heated throughout by means of hot air; efficient methods of ventilation have been adopted, and artificially the whole building will be lighted by electricity. The lifts and other mechanical contrivances will be worked by electric motors, light and electric power being taken from the Edinburgh Corporation. The building, it is understood, has cost, exclusive of site and furnishings, something like 380,000*l*.—*Scotsman*.

ISOLATION HOSPITAL, WORKSOP.—On the 23rd ult. a meeting of the joint committee of the Worksop and Blyth and Cuckney Isolation Hospital District was held at the Town Hall, when tenders were received for the erection of the proposed new isolation hospital for the combined districts. The site of 100 acres has been acquired on the Carlton glebe land, about 2½ miles from Worksop, and the estimated cost of the whole scheme is 6,000*l*. The buildings, which are to be built to the plans of Mr. Frederick Hopkinson, Surveyor to the Blyth and Cuckney Rural District Council, will comprise four blocks — administrative, twelve-bed ward block, four-bed ward block, and laundry block—and will be of bricks, with Broseley tiling. Out of ten contractors, Messrs. C. Ilett & Son, of Worksop, secured the contract at 4,745*l*.

DISPENSARY, PAISLEY.—The new public dispensary erected in Paisley to commemorate the sixtieth year of the reign of the late Queen Victoria was formally handed over to the directors of the Royal Alexandra Infirmary, Paisley, on the 24th ult. The dispensary is attached to the new Royal Alexandra Infirmary. The elevation is of one story, and the frontage is entirely in Neilston-road. The architect is Mr. T. Graham Abercrombie, Paisley.

TECHNICAL INSTITUTE, TUNBRIDGE WELLS.—The new Technical Institute, Tunbridge Wells, situate in Monson-road, has just been opened. The total cost of the erection will be about 13,000*l*. The building is of red brick, with stone facings. To the right of the entrance is the library, open to all students, also a drawing-room, offices for the secretary, lavatories, cloakrooms, and rooms for manual instruction, 50 ft. by 22 ft. On the second floor are the dressmaking-room, chemical and other lecture rooms, a laboratory, &c. On the top floor are the art and drawing rooms. Four large rooms are devoted to art. Cookery classes will proceed in specially-designed rooms, with gas-stoves and glazed tiles. The building is lighted by electricity and heated by radiators. Mr. H. T. Hare, of London, is the architect; and Messrs. Davis & Leany, of Goudhurst, are the builders; and the clerk of works Mr. Taylor.

WORKHOUSE, ISLEWORTH, MIDDLESEX.—A new block of workhouse buildings has been erected at Isleworth. At the entrance gates is the porter's lodge, near which is the receiving and disinfecting and remand boys' wards, and a little further off is the chapel. Admission to the great central block is obtained opposite the receiving ward, and here are the master's, clerk's, and committee rooms, and radiating from it are the corridors whence all the other departments are reached. These comprise separate blocks for the aged men and women, for the able-bodied inmates, the imbeciles, short-period lunatics, old married couples' quarters, and stabling. The administration block is in the centre of the main buildings, and includes stores, matron's office, cutting-out rooms, sewing-room, dayroom, dry goods store, laundry, workshops, bakery, wood store, sawyers', tailors', shoemakers', and carpenters rooms. The engine-room is fitted with plant to drive all the machinery and manufacture the electric light with which the buildings are to be illuminated. All the blocks are fireproof, and have fire-escape staircases provided. The house is designed for 800 persons. It has been built by Messrs. J. Dorey & Sons, of Brentford, from plans by Mr. W. H. Ward, of Birmingham, at a contract price of 82,633*l*. The total cost, including furnishing, is calculated at 100,000*l*.

CO-OPERATIVE PREMISES, ANNFIELD PLAIN, DURHAM.—New premises have just been added to the Annfield Plain Co-operative Society's Central Branch at Annfield Plain, at a cost of about 5,000*l*. The block of buildings comprise on the ground floor adjacent to the old stores a greengrocer's shop and also a jewellery department; while immediately behind is a greengrocery warehouse. Upstairs is the large Co-operative Hall, capable of seating 600 people. It contains two ante-rooms and a platform. The part of the building adjoining the Board schools embrace on the ground floor a drapery department, 65 ft. long by 26 ft. wide, with oilcloth stores, a millinery shop, and a milliners' workroom at the rear. There is, moreover, a tailoring department, a tailors' fitting-room, and a tailors' workshop, together with the necessary lavatory and other accommodation. Upon the upper floor there are manager's, secretary's, and clerk's offices, a committee-room, and a billiard saloon. There is likewise a reading-room, 29 ft. 9 in. long and 25 ft. in width. The designs were prepared by Mr. George Thomas Wilson, architect, of Blackhill; while the whole of the contract was carried out by Messrs. Wm. Ayton & Sons, Benfieldside.

SANITARY AND ENGINEERING NEWS.

HANLEY SEWAGE DISPOSAL.—A Local Government Board inquiry was held by Mr. A. A. G. Halet, M.Inst.C.E., on the 28th ult., at the Council Chambers, Hanley, in respect to an application by the Corporation for sanction to a loan of 74,700*l*. for a scheme of sewage disposal for the borough, which has been prepared by Messrs. Willcox & Raikes, civil engineers, of Birmingham. Mr. Willcox attended, and fully explained the scheme, which embraces a complete system of biological treatment of the sewage of the whole borough, the amount of sewage and storm water to be treated being estimated at 12,000,000 gallons per day. From the main outfall sewer the sewage will be discharged into screening and detritus chambers, and thence to the tanks, which will have a capacity of 4,000,000 gallons. After passing through the tanks, the tank effluent will be treated on specially prepared bacteria beds, the area of these being 9 acres, the effluent being afterwards discharged direct into the stream, as, owing to the unsuitable nature of the land in the Potteries district, the Local Government Board were asked to waive their usual requirements with regard to treating the filtered effluent on land, and consented to hold an inquiry without this provision being made.

PROPOSED BRIDGE ACROSS THE STRAND.—A scheme has just been prepared by Sir John Wolfe-Barry for the construction of a bridge across the Strand at the bottom of Wellington-street, so as to enable the north and south traffic to pass independently of the east and west traffic. Sir John Wolfe-Barry's solution of the problem of congested traffic is to make a street adjoining Wellington-street on its western side, starting from Tavistock-street, which would rise from that point to a gradient of about 1 in 30, to construct a bridge across the Strand with a headway of about 16 ft. 6 in., and to continue the roadway on the line of Lancaster-place, which should fall at a gradient of about 1 in 20 to 1 in 30, and join Waterloo Bridge at its northern end. He suggests that Wellington-street should remain as at present with a width of 50 ft., and that the new street should also have a width of 50 ft., the two streets running side by side at different levels. The scheme would permit of the building of shops along a considerable portion of the west side of Wellington-street, below the new street, and along the raised road there would also be a frontage of commercial value which would be of great importance in connexion with the expense of the project. In the event of the Westminster City Council considering that the matter is one that should receive careful investigation by their own officers, Sir John Wolfe-Barry has expressed a desire to submit to those officers a more satisfactory plan than the one submitted, which has been hurriedly drawn. It appears to the committee that, before committing the Council to the scheme, it will be necessary to obtain reports upon its estimated total cost, including the promotion of a Bill in Parliament, and the acquisition of property and buildings; upon the estimated return of lettings or sales; and upon the question of traffic and cross traffic at the intersection of the Strand and Wellington-street; and then to consider whether the matter is not one to be dealt with by the London County Council, and, if so, whether that body should be invited to consider it.

FOREIGN.

JOHANNESBURG.—From information which we have lately received from our correspondents in South Africa, it is quite evident that already there has set in a building activity in Johannesburg and other large centres of the Transvaal Colony. The very large requirements of the Government and of the various municipalities have already had a stimulating effect upon the building and allied trades. Owing to the excessive railway rates and transport difficulties, the erection of much-needed dwellings and business houses at Johannesburg is proceeding at a very slow pace, but this state of affairs will

quickly undergo a change for the better when railway and other transport rates are reduced. The revision of the tariff rates in the Transvaal has not yet been in force for a sufficiently long period to enable anyone on the spot to judge of its effect upon the cost of building materials. To judge, however, from what our correspondents have to say, we imagine the cost of buildings, houses, and rents is still enormously high, and residents in the country are anxiously looking forward to seeing, in the course of a month or so, a big competition in the building trade, which must of necessity have a marked effect upon the rents at present charged. It goes without saying that Johannesburg and its already big suburbs are going to develop enormously in the very near future. Every week batches of emigrants are leaving England to find a new home in South Africa; and as the majority of them have as an objective the Golden City, it stands to reason that house accommodation will have to be found for them. Looking at the position, therefore, from every standpoint, one is forced to the conclusion that there are bright times ahead for the exporters of materials and portable requisites for buildings and allied trades. Although eventually substantial brick and stone houses will be the rule, it stands to reason that at the very beginning, and for some little time to come, there is certain to be a big demand for portable houses, of both wood, iron, and steel, in all the principal towns of the Transvaal and Orange River Colonies; and to those who have not already taken steps to obtain a share of the business now offering we earnestly commend the idea of their doing so in such a way as to let the new markets know of their existence and the nature of their manufactures. These are go-ahead days. The old times and methods of doing business are rapidly vanishing into oblivion. If British manufacturers are desirous of increasing their *clientèle*—nay, of even keeping their present connexion—they must keep pace with the constant changes of method. They must push their goods continuously, and make their names and manufactures as well known in the new countries as in the old. If the cry for more buildings at Johannesburg is so pressing at the present moment, what is it likely to be when the city resumes its normal position, and the gold and other industries of the country expand? Buildings will have to be erected to meet the requirements of the Government and the needs of the municipal and other authorities. Last, but by no means the least, dwellings for the large working population which is steadily growing must be provided if the industries of the country—mineral, industrial, and agricultural—are to develop and prosper.—*Anglo-African Argus.*

AUSTRALIA.—A convent is to be erected at Rookwood, New South Wales; Mr. J. Nangle, of Sydney, is the architect.——The Master Builders' Association of New South Wales have passed a resolution to the effect that the prevailing practice among timber merchants of supplying "stock sizes" slightly less than the true size is undesirable, and they suggest that steps be taken to ensure the timbers supplied being of the full size named in the order or invoice. ——A large building, to be called the Fisher Library, is to be erected on the University ground in Sydney. ——A church erected at Greenwich, New South Wales, has recently been opened. The architect is Mr. J. T. McCarthy, of North Sydney.——The Minister of Works has determined to have one of the memorial pavilions at the Prince Alfred Hospital, Sydney, erected by his own staff. The State Parliament has voted 45,000*l.* towards the execution of the work, and tenders were advertised for, but the Government failed to secure any tenders, as builders were of opinion that the buildings as designed would involve a much larger expenditure.——The Queensland Cabinet has given much consideration recently to the Report by Mr. A. B. Brady, Government Architect, on the best site for the proposed Brisbane University.——The Governor of Queensland has recently unveiled a statue erected to the memory of the late Hon. T. J. Byrnes in Brisbane. The figure is of bronze, and 9 ft. 6 in. in height. It is erected on a pedestal 22 ft. in height. The sculptor is Mr. Bertram Mackennal, and the work was carried out in London, except the pedestal, which was executed by Mr. E. L. Thumm, of Brisbane, out of local granite.

GERMANY.—The Emperor William has been discussing with Herr Gehrke, the artist, the desirability of reviving the style of mediæval majolica for decorative purposes. The Emperor, who has for some time been interested in the matter, has resolved to give the movement his active support.

RUSSIA.—The Czar has authorised the raising of subscriptions throughout the Russian Empire for the erection of a monument in commemoration of "the eleven months' heroic defence of Sevastopol." Other means to commemorate the Crimean War are also contemplated along the old lines of defence of the town mentioned. The site has been practically untouched since 1856; the principal monument at present is on the Malakoff.

THE STUDENT'S COLUMN.—Our Student's Column article ("The Chemistry of Building Materials") is unavoidably held over until next week.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENT.—Messrs. Green & Son, auctioneers and surveyors, have removed their offices from 28 and 29, St. Swithin's-lane, to No. 17 in the same street.

LANCASTER MASTER BUILDERS.—At the King's Arms Hotel, Lancaster, recently, the members of the Lancester and District Master Builders' Association held their annual dinner. Mr. G. Wright, President, was in the chair. The loyal toasts having been duly honoured, Mr. Till proposed "Success to the Lancaster Master Builders' Association." The Federation in Lancaster was still flourishing, he said, and was in a most satisfactory condition. They ought to congratulate themselves that every member of the trade in the town was in the Federation. The masters were on good terms with all the men. The President, whose name was coupled with the toast, in responding, referred to the harmonious feeling that existed amongst the builders of the town. He believed a good deal had grown from being affiliated together. The men federated, they combined, and quite right; he believed they should have absolute freedom in combining. At the same time, the masters must follow suit. The men thoroughly weighed up their demands, and they were not so outrageous now they had a Masters' Association to meet. He believed that because they were federated the men were better off. The masters looked at things more broadly than if they looked at them merely from their own standpoint. Mr. T. Mawson gave "The Health of the President." Mr. Wright, in briefly responding, said he earnestly desired that anything that was done should be for the mutual benefit of the whole, and not for individuals.—Mr. Hatch proposed "The Architects," and said the relations between the architects and the members of that Federation were the most cordial. Mr. Harris replied to the toast. "The Visitors" was proposed by Mr. R. Wilson, and responded to by Mr. Cross and Mr. Ireland.

SCHOOL OF ART, BLOOMSBURY.—The institution at 43, Queen-square, Bloomsbury, which calls itself by the rather absurd title, "The Royal Female School of Art" (why not "School of Art for Women?") held on Friday and Saturday last week its annual display of students' work in drawings, modelling, wood carving, &c. The title of the institution is the only thing one can complain of, except the absence of complete figure study, the drawings from the life consist only of heads. But as far as it goes the students' work seems very good and the effect of good teaching. The collection of still life studies for a special prize were especially noticeable for careful and conscientious character of work.

THE ROADS IMPROVEMENT ASSOCIATION.—At a meeting of the Council of the Roads Improvement Association, Incorporated, held at 45, Parliament-street, recently, it was reported that the Government were giving favourable consideration to a request of the Association for the appointment of a small Departmental Committee to inquire into the existing system of highway administration, and to some extent clear the ground for the appointment next year of a Royal Commission dealing with the general question of internal communication. In a letter from the Association, handed to the Prime Minister by the Hon. Arthur Stanley, M.P., the following reasons were assigned for this request:—"1. The suburban areas of the large towns are being built over without reference to any general design under which new main roads would be formed, with the result that these areas are little more than a chaos of short, mean streets, which take no share of the through traffic, and serve only to feed the few main arteries which existed at the beginning of the last century. It is impossible to modify the resulting evils by building new trunk roads, for when the turnpike system was abolished no alternative machinery was provided for the construction, either by public or by private enterprise, of new arteries of traffic through and out of the great towns. 2. Under the existing system of highway administration the care of the roads is divided up among so many authorities that it is impossible to obtain a uniform system of management, with the result that, although large sums of money are spent upon the maintenance of our roads, their condition leaves, in some cases, much to be desired. There are many instances in which a main trunk road in the course of twenty miles is administered by no less than ten or twelve different authorities. Some improvements were made by the Local Government Acts of 1888 and 1894. In particular, the County Councils in many districts have done much to improve the roads, but the usefulness of the County Councils would be increased largely by an extension of their powers in highway matters. The system of highway administration is closely bound up with the housing and transport questions, and a large number of Members of the House of Commons (of whom a list was attached) are of opinion that the time is now ripe for a public inquiry into the existing system with a view of ascertaining what legislative and administrative alterations economic changes have rendered necessary." The Council of the Association have also resolved to approach the Home Secretary with reference to the regulation of street traffic in London. The Hon. Arthur Stanley, M.P., was elected the Vice-President of the Association. It was reported that among the contributions to the funds of the Association received since the previous meeting of the Council was one of 50*l.* from Mr. J. R. Baillie, of Hampstead.

ROYAL ASYLUM FOR THE DEAF AND DUMB.—Having removed their asylum for deaf and dumb poor to Margate, the governors of this charity have resolved to dispose of their block of freehold buildings situated in Old Kent-road, nearly opposite the Bricklayers' Arms public-house. The asylum, instituted in 1792, was established in 1807 in Old Kent-road, where the premises were enlarged twelve years afterwards to receive 300 inmates. A branch asylum was opened at Margate forty years ago, and in 1886 the asylum in Old Kent-road was rebuilt.

NIGHTINGALE-STREET, MARYLEBONE.—The notices of the London County Council requiring the inhabitants to vacate the premises have now expired. For the time, the London County Council stand in the technical position of "owners," and we understand that the officers of that Council are empowered to close as soon as practicable the worst houses, and to make a few others temporarily habitable while the work of reconstruction goes on. The new Nightingale-street buildings, when constructed, will add yet another block of artisans' dwellings to the district, and at least house, under favourable conditions, as great a number of persons as those who have been displaced by the scheme.

NEW LYCH GATE, ST. ANDREW'S CHURCH, NORWICH.—The lych gate which has been erected over the main entrance to the churchyard of St. Andrew's in memory of the late Canon Copeman was dedicated on the 23rd ult. In accordance with the designs of Mr. Herbert J. Green, it has been built of English oak in Gothic design. The roof is covered with Broseley tiles, and is gable fronted with ornamental barge boards.

GLASGOW BUILDING TRADES' EXCHANGE.—The annual meeting of the Glasgow Building Trades' Exchange was held in the Exchange on the 31st ult., Colonel Bennett presiding. Mr. David Cook, writer, secretary, read the ninth annual report on the affairs of the Exchange. The accounts showed that there was a credit balance on the year's working of 1*l.* 0*s.* 9*d.* While the Exchange was financially in quite a healthy condition, the report continued, a strong effort would require to be made to increase the income. Efforts should be directed towards endeavouring to increase the membership and to obtain a number of new exhibits for the sample-room. Towards the building fund of the new Technical College the Exchange collected a sum of 653*l.* 3*s.* 6*d.* over and above the sums contributed by the Hon. President and President, or in all a sum of 2,153*l.* 3*s.* 6*d.* In connexion with the appointment of a Commission to inquire into the housing question, the Executive asked that Mr. James Goldie's name be added to the Commission. This request was granted, and Mr. Goldie would keep the Exchange in touch with the inquiry. During the year a discussion was entered upon in Parliament with reference to a pernicious Bill prepared and brought in by Sir Charles Dilke, entitled "A Bill to Legalise the Peaceful Conduct of Trade Disputes," and in this connexion the Executive caused their secretary to address a letter on the subject to most of the Scottish Members of Parliament.

HOUSING, MILLBANK ESTATE & POPLAR, LONDON.—The Housing of the Working Classes Committee of the London County Council recently reported that the whole of the seventeen blocks of dwellings on the Millbank estate had been completed for occupation. The dwellings contain 895 tenements capable of accommodating 4,430 persons. In view of the fact that sixteen of the seventeen blocks of dwellings have been erected in connexion with the Clare-market scheme and the Holborn to Strand and Westminster-embankment improvements, they reported at the meeting on Tuesday that "the Council may be interested to know from what districts the tenants have been drawn. Of the 895 tenements no fewer than 588, or 65·6 per cent., have been occupied by persons who have moved from other parts of Westminster. This number includes twenty-two tenants who have been displaced from the area of the Westminster-embankment improvement, and three who have been displaced from the Clare-market area. As tenements become vacant further tenants are being accepted from the area of the Westminster-embankment improvement. Of the remaining 307 tenants, ninety-seven came from Lambeth, thirty-six from Battersea, twenty-two from Camberwell, twenty from Chelsea and Southwark, sixteen from St. Pancras, fourteen from Fulham, twelve from Paddington, nine from Kensington and St. Marylebone, and thirty-one from other Metropolitan Boroughs; while twenty-one came from districts outside the county of London. These latter were only accepted as tenants at times when there was a dearth of applicants for tenements. The above information has been prepared on information given by the tenants in occupation of the dwellings on October 1, 1902." They also reported as follows: "We have to report that Sydney and Melbourne buildings, Ann-street, Poplar, are now almost ready for occupation. The Ann-street scheme, which will be completed by the opening of these dwellings, was framed in 1893 under Part II. of the Housing of the Working Classes Act, 1890, and has

been carried into effect by the Council with the aid of a contribution of 4,400*l.* from the Poplar District Board (now the Metropolitan Borough Council of Poplar). In all, three blocks of dwellings have been provided, and the first of these (Adelaide-buildings) was completed and occupied in September, 1901. The two blocks of dwellings now nearly completed provide accommodation for 440 persons in sixty-five tenements of two rooms, and thirty tenements of three rooms. With the completion of these buildings accommodation under the Ann-street scheme will have been provided for 630 persons, as against 261 displaced.

WORKING-CLASS DWELLINGS, ST. PANCRAS, LONDON.—The Mayor, Aldermen, and Councillors of the Borough of St. Pancras inaugurated on the 29th ult. a scheme for the removal of insanitary areas and the amelioration of the conditions of residence of the working-classes of the district. The particular occasion was the laying of the foundation-stone of new artisan dwellings in Great College-street. The proposed buildings will be situated at the extreme west corner of the street, facing the municipal offices. The Rev. C. Ensor Walters, Chairman of the Public Health Committee of the borough, opened the proceedings with an account of the origin of the movement for the better accommodation of the poorer classes. Probably there was no borough in the Metropolis, he said, in which the housing problem pressed more hardly for solution than in St. Pancras. It contained particular causes of overcrowding. Its area was immense, stretching from the north-west—where they had healthy open spaces which were probably unparalleled in London—to the centre of West Central London. In the Southern centre of the borough the great railway schemes had of necessity torn great gaps in the already overcrowded areas, and side by side they had created workshops, dwellings, and Board schools, which had intensified the evil. He was not complaining. They were necessities to the busy life of London; they were only causes of the insanitary areas. Taking the period between 1881 and 1891, the number of houses decreased by 262, whilst between 1891 and 1901 the number decreased from 24,511 to 23,715, whilst the population increased by 568 persons, so that they had a larger population dwelling in less cubic space than ten years ago. He was perfectly well aware that the final solution of the question was to get the workers to the distant outskirts, but, remembering the large number who were obliged to live near their work, the Borough Council had realised their duty of making the house accommodation for them as central as possible, and wherever possible to erect additional dwellings. They were met to lay the foundation-stone of dwellings which were but part of a larger scheme. These buildings were part of what was known as the Brantome-place and Prospect-terrace scheme. The area to be demolished under that scheme was amongst the most insanitary in London. There were 1,174 persons residing upon them. Their scheme provided for 520, still leaving 654 for whom there was no accommodation. It was to house these people that the buildings, the foundation-stone of which the Mayor was about to lay, were being erected. They would cost 6,500*l.* The total cost of the entire scheme would be 17,734*l.*

MEMORIAL BRONZE, OVER STOWEY, SOMERSETSHIRE.—A memorial has just been placed in the chancel of the parish church in memory of the son of Mr. E. J. Stanley, M.P., of Quantock Lodge, near Bridgwater, who fell in South Africa. It consists of a large bronze, resting upon a slab of mottled and polished Devonshire marble. Above the inscription is the badge of the Somerset Yeomanry, whilst below are emblazoned the arms and crest of the Stanleys, together with the family motto. This memorial has been carried out in the studios of Messrs. Harry Hems & Sons, of Exeter, and has within the last few days been placed *in situ*.

THE SONNING BRIDGES.—A quarterly meeting of the Oxfordshire County Council was held a few days ago under the presidency of Lord Valentia, M.P., when the question of the rebuilding of Sonning bridges was discussed at some length. The Roads and Bridges Committee reported that, under the authority given to the Committee by the Council, the Committee had accepted the following tenders for rebuilding the three consecutive bridges at Sonning according to the plans prepared by Mr. Tollit (the County Surveyor), as architect, which had been approved by the Thames Conservancy:—Mr. McCarthy Fitt, of Reading, for builders' work, 2,287*l.*; Messrs. Keay, of Birmingham, for iron and steel work, 4,685*l.*; Sanitary Pavement Co., London, for paving, 504*l.* 12s.; Messrs. Free, of Maidenhead, for paths and kerbs, 194*l.* 17s. 6d.—total 7,671*l.* 9s. 6d. The Committee of the Council requested that the seal of the Council might be affixed to contracts for carrying out these tenders under the supervision of the Architect. The Committee had given every consideration to the adverse public criticism to which the design of their Architect had been subjected. It was, however, undeniable that the present bridges were unsafe and incapable of repair or restoration, and that a bridge of brick arches or of wooden construction would be wholly impracticable owing (*a*) to the flatness of the roadway, and (*b*) to the fact that in the winter floods the water rises to the level of the wooden bearers and submerges the lower portion of the present bridges. In face of these facts, the Committee had decided to adhere to the plans for an iron bridge. An alternative plan was placed before the Council providing for the substitution of brick piers for iron supports, with narrower spans, and the use of the old railing at the sides in lieu of a lattice parapet.—Lord Jersey asked the object of having two designs before the Council that day?—The Chairman said the reason, he must admit, was this—that the Committee had, he understood, yielded to the agitation which had appeared in the newspapers and elsewhere, and to the adverse criticism of the original design approved by the Committee and confirmed by the Council. It was felt that, if there be any reason for saying it was vandalism to erect the modern bridge approved by the Committee, some modification ought to be accepted, if possible.—Lord Jersey said it placed them in rather a difficult position, because they now found two plans on the table, and, according to the Report, the Committee only asked the Council to carry out the plan which was settled last August. He must say himself, looking at the two plans, he should have no hesitation whatever in preferring the alternative one.—Alderman Darell-Blount asked if brick piers could be substituted for the two iron pile piers that were shown in the original plan. Instead of having smaller spans of 30 ft. and more numerous brick piers with the lattice girders, could they have 50 ft. spans with brick piers substituted for the iron piles? The iron piles formed, he believed, the chief objection to the design of the first bridge.—Sir G. Dashwood suggested that as there appeared to be some doubt in the mind of the Committee and the Council with regard to the bridge the plans should be referred back to the Committee.—Mr. A. W. Hall supported the suggestion.—Colonel Baskerville thought it would be a pity to put the work off for another three months. He proposed that the Council should instruct the Committee to accept the alternative plan.—Mr. A. Brassey, M.P., considered the alternative plan the more ornamental. The two plans could be submitted to the Committee, and he would suggest they should adopt the one they thought most desirable. The difference in the expense was 1,000*l.*, but that was spread over a considerable time, and he did not think in a bridge which was likely to be a permanent eyesore or the reverse they ought to consider that question.—After some further discussion, it was unanimously resolved that the rebuilding of Sonning bridges be referred back to the Committee with power to adopt the plan that was approved by them at an expenditure of not more than 9,000*l.*

CAPITAL AND LABOUR.

BRICKLAYERS' STRIKE, KIDDERMINSTER.—A strike of bricklayers in the Kidderminster district, which began in April, has been ended by an award given by his Honour Judge Austin, of Bristol, who was appointed arbitrator by the Board of Trade. He has decided in favour of the men, given them a halfpenny per hour advance, and also certain concessions on other points.

BUILDING TRADE ARBITRATION, BURTON-ON-TRENT.—At the beginning of July in the present year the operative stonemasons at Burton-on-Trent came out on strike for an advance of 1d. per hour on the current rate of wages, and certain alterations in the working rules. After refusing to listen to the employers' offer to submit the points at issue to the executive of the Midland Trade Employers and the executive of the Friendly Society of Operative Masons for settlement, or to arbitration through the Board of Trade under the Conciliation Act, 1896, the men remained on strike for two months. Ultimately they accepted the later proposition, and returned to work at the beginning of September, the employers agreeing to pay the men any advance that might be awarded, from the time they resumed work. Application was made to the Board of Trade to appoint an arbitrator, and on October 18 his Honour Judge Austin, of the Bristol County Court, sat in this capacity at Burton-on-Trent. His Honour has now given his award. He failed to find that the operatives had made out their case for an advance of wages, but several alterations of a minor character have been made in the working rules. The award is binding on both sides till July, 1905.—*Birmingham Gazette.*

LEGAL.

THE BUILDING OF A THEATRE.

ON the 31st ult. Mr. Clavell Salter applied to the Lord Chief Justice and Justices Wills and Channell, sitting as a Divisional Court of King's Bench, that the hearing of motions arising out of a dispute between Sir Charles Wyndham and Messrs. Kirk & Randall, who are building a theatre for him, might be expedited. The learned counsel stated that Sir Charles Wyndham had declined to honour an architect's certificate for 2,000*l.*, and explained that, on the matter being submitted to one arbitrator, and then to another, two different awards had been made. These it was now sought to set aside. There was consequently a deadlock, and no money could be paid. The work, however, was going on.

The Lord Chief Justice said that if the work was going on there was not much harm done, and he declined to grant the application.

The application was accordingly refused.

LITIGATION BETWEEN CONTRACTORS.

THE case of Bow, McLachlan, & Co., Ltd., *v.* Dutilth, Smith, McMillan & Co., came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Romer and Mathew, on Monday last, on the appeal of the plaintiffs from a decision of Mr. Justice Jelf in Chambers staying the action, and allowing the action to go to arbitration.

Mr. Hamilton, K.C., in support of the appeal, said the plaintiffs were electrical engineers carrying on business in Glasgow, and the defendants were a firm of electrical engineers who had a big contract from the Southend Corporation for the installation of the electrical tramway system in that town. They sub-let the engineering part of the contract to the plaintiffs, the total amount of which sub-contract was about 8,000*l.* The present claim was for 3,000*l.*, the balance alleged to be due under the sub-contract, and 900*l.* for extras. The defendants, in their affidavit, shadowed forth a counterclaim for 3,500*l.* Under the contract any dispute arising between the parties was to be referred to the arbitration of the Southend Corporation Borough Engineer, Mr. Fidler, and Mr. Justice Jelf, in view of this, stayed the action started by the plaintiffs, and referred the matter to the arbitration of that gentleman. Hence the present appeal of the plaintiffs, who contended that Mr. Fidler's interests were so fully mixed up in the dispute that he could not approach the matter with a sufficiently open mind to give an unbiassed decision on the matter. The learned counsel said that the dispute had reference to the supply by the plaintiffs of two engines, each capable of producing 200 kilowatts of electricity, and a third engine of 125 kilowatts. Although these engines had been working the tramways for the last twelve months without a breakdown, Mr. Fidler complained that they did not work properly, and he had entered into a contract for what he termed "repairing" the two larger engines and for replacing the smaller engine, the amount of that contract being the amount counterclaimed for 3,500*l.* The plaintiffs' suggestion was that if anything was wrong with the machinery it was the boilers which the Borough Engineer himself supplied that were in fault. Under these circumstances, the learned counsel contended that Mr. Fidler was not the proper person to arbitrate on the case.

Mr. Roskill, for the defendants, submitted that Mr. Fidler was in no different position to any other Borough Engineer who might be named in a particular contract as arbitrator. It was well known that, in case of a dispute arising, he would be in possession of the facts, and it had not been shown that he had done anything extraordinary in this matter.

Judgment was reserved.

IMPORTANT TRADE UNION APPEAL.

IN the Court of Appeal, composed of the Master of the Rolls and Lords Justices Stirling and Cozens-Hardy, on the 4th inst., a considered judgment was delivered in the case of Read *v.* The Friendly Society of Operative Stonemasons and Others, on the appeal of the defendants (other than R. E. Saunders) from a judgment of a Divisional Court of King's Bench, composed of the Lord Chief Justice of England, Mr. Justice Darling, and Mr. Justice Channell ordering a new trial of the action tried before Judge Eardley Wilmot, the County Court Judge of Ipswich, in which he gave judgment for the defendants. There was also a cross appeal by plaintiff asking that judgment might be entered for him. (The arguments on the appeal were reported in our issue of August 16, 1902.)

The action was brought by the plaintiff, Read, the son of a mason, against the defendants for damages for wrongfully and maliciously inducing Messrs. Wigg & Wright, of Ipswich, to whom the plaintiff had been bound apprentice for three years as a stonemason, to break the contract of apprenticeship. The deed of apprenticeship was entered into on June 1, 1900, at which date the plaintiff was twenty-five years of age, and by the deed the plaintiff covenanted to serve his employers for three years at 15s. a week, and they (the employers) covenanted to teach him the trade. Messrs. Wigg & Wright and the men in their employ were members of the defendant Society. Certain rules had been drawn up between masters and men, and these rules Messrs. Wigg & Wright had agreed to and signed. Rule 6 for Ipswich and district was as follows:—"Apprentices.—That boys entering the trade shall not work more than three months without being legally-bound apprentices, and in no case to be more than sixteen years of age, except masons' sons and stepsons. Employers to have one apprentice to every four masons on an average." At a lodge meeting of the defendant Society on August 13, 1900, it was resolved that if the plaintiff started work for Messrs. Wigg & Wright as a mason, one of their employees was to report the fact in two hours. Owing to the action of the defendant Society from August 3, 1900, to May 20, 1901, Messrs. Wigg & Wright did

not employ the plaintiff as a stonemason or teach him the trade; but he continued to do labourer's work. On May 20, 1901, the secretary of the defendant Society wrote to Messrs. Wigg & Wright that they regretted that the firm had put themselves into a difficult position, but the members of the Society considered the firm's action a direct infringement of the rule, and if the man started working at the trade they were bound to protest against the firm for introducing an individual not of the trade, and in accordance with their general rule the Society had empowered their members working for the firm to take prompt action in the matter. The defendants, in their answer to interrogatories, admitted that "prompt action" meant that the masons in Messrs. Wigg & Wright's employ should give two hours' notice and leave their employ if they thought fit. The County Court Judge held that the facts fell short of giving any ground of action against the defendants, who seemed to have acted bonâ fide in the best interests of the Society and not from any improper motive, and though the defendants' interpretation of the rule might not be correct, they had not acted improperly in their method of enforcing it. The Divisional Court, on the plaintiff's appeal from the learned County Court Judge's decision, held that the contract alleged by the defendants was one which, if proved, might, by reason of its being in restraint of trade or otherwise illegal, be incapable of being enforced, and in that case to seek to hold Messrs. Wigg & Wright to it could not be held a sufficient justification. Whether there was a contract between Messrs. Wigg & Wright and the defendants did not sufficiently appear. For these reasons, the Divisional Court, by a majority, held that there must be a new trial. Hence the present appeal of the defendants and the cross appeal of the plaintiff.

The Master of the Rolls, in giving judgment, after stating the facts, said the case seemed to him to be clear. The plaintiff was entitled to the benefit of the contract which he had made and that benefit he would have continued to enjoy but for the intervention of the defendants. The object of the defendants' intervention was to deprive him of that benefit. The facts left no room for doubt of that. He was not a member of their Society and was under no obligation, legal or moral, to conform to their rules. In these circumstances the defendants conspired to enforce by threats of a formidable character, which they had the means of carrying into effect, a breach by his employers and instructors of the contract which the latter had with him; and the only justification they could suggest for this conduct was that Messrs. Wigg & Wright had come under an obligation to them, not, perhaps, legally enforceable, if not illegal, not to make such a contract as they had made with the plaintiff. But the justification, to be of any avail, must cover their own conduct, the means they used as well as the end they had in view. As against Wigg & Wright, defendants had whatever rights within the law the rules assented to by Wigg & Wright afforded them. But to combine to coerce them by threats of the character he had described to break their contract with the plaintiff was in his judgment an illegal act carried out by illegal means. They could not be in a better position if the rules were unenforceable than they would have been had the breach of them given them a legal cause of action. But, in such case, how could they possibly justify taking the law into their own hands and compelling the opposing litigant by coercion to give effect to their view of a disputed obligation by breaking his contract with the plaintiff? Further, did not such conduct demonstrate that their object was to defeat the plaintiff's purpose of becoming a mason? Belief, however honest, that in what they did they were acting in the best interest of the Society of Masons could be no excuse for conspiring to deprive the plaintiff of the advantages of his contract. Persuasion by an individual for the purpose of depriving another person of the benefit of a contract, if it was effectual in bringing about a breach of the contract to the damage of that person, gave a cause of action, and a strong belief on the part of the persuader that he was acting for his own interests did not seem to him to improve his position in any respect. Still less could it do so when he did not confine himself to persuasion, but joined with others to enforce their common interests at the plaintiff's expense by coercion. Lord Watson, in the case of Allen *v.* Flood, said that in his opinion there were only two grounds on which a person who procured the act of another could be made legally responsible for its consequences. In the first place, he would incur liability if he knowingly and for his own ends induced that other person to commit an actionable wrong. In the second place, when the act induced was within the right of the immediate actor, and was therefore not wrong as far as he was concerned, it might yet be to the detriment of a third party, and in that case the inducer might be held liable if he could be shown to have procured his object by the use of illegal means. That passage was approved by Lord Macnaghten, and cited by him as embodying the opinion of the majority in that case. The present case inevitably fell under one or other of those propositions, and his lordship thought within both. The defendants did knowingly and for their own ends induce the commission of an actionable wrong, and they employed illegal means to bring it about. Such conduct would be actionable in an individual and incapable of justification, where the defendants acted in concert. These considerations seemed to exclude for discussion in the present case the illustrations given in argument of what might in given instances be "just cause," or in other words suffice to negative malice. There was no relation between the defendants and either of the parties in this case at all analogous to those existing in the instances put of father and child, or doctor and patient, which he had for solution when the case arose. The defendants had no higher immunity from legal obligations than any other members of the community, and if they had legal rights they could enforce them by legal means only. He thought the materials before the Court were sufficient to enable them to enter judgment. He thought that the defendant's appeal should be dismissed, and the plaintiff's cross appeal allowed, and judgment entered for the plaintiff for 50*l*.

The Lords Justices concurred.

Mr. Arthur Cohen, K.C., on behalf of the defendants, applied for a stay of execution. He said that the question involved was a very important one, and his clients would like time to consider whether they would appeal to the House of Lords.

The Master of the Rolls: No, I do not think we can stay execution.

ACTION AGAINST A MASTER BUILDERS' FEDERATION.

THE case of Bulcock *v.* the St. Anne's Master Builders' Federation came before a Divisional Court of King's Bench, composed of the Lord Chief Justice and Justices Wills and Channell, on the 4th inst., on an appeal by the plaintiff from a decision of the County Court Judge of Blackpool giving judgment for the defendants. The plaintiff, Thomas Bulcock, a joiner, was secretary of the St. Anne's branch of the Amalgamated Society of Carpenters and Joiners, and the defendants were the St. Anne's Master Builders' Federation, and William Pearson (Chairman), William Sutcliffe (secretary), and Samuel Wilson, a member of the Committee of the Master Builders' Federation.

Mr. C. A. Russell, K.C., and Mr. Mellor appeared for the appellant; and Mr. Firth for the respondents.

Mr. Russell said the action in the County Court was brought by the plaintiff against the defendants to recover damages for their having unlawfully and maliciously induced the appellant's employers to discharge him from their service, which they did at the dictation of defendants, although the employers themselves had no fault to find with the appellant, and wished to continue his employment. The evidence before the County Court Judge was given by the appellant himself, by Mr. Sutcliffe, and by Mr. Thompson, one of the appellant's employers. The appellant, who gave a history of the dispute, stated that in June, 1899, he left Bury, and obtained employment at St. Anne's, near Blackpool. He had been a member of the trades-union ever since he had been a journeyman joiner, and soon after he went to St. Anne's he was appointed to the secretaryship of the St. Anne's branch of the Amalgamated Society of Carpenters and Joiners. In 1900 a dispute arose between the masters and workmen owing to the masters having given notice of a reduction from 9d. at Blackpool and 8½d. at St. Anne's to 8d. per hour. The workmen declined to submit to the proposed reduction, and were accordingly locked out in December, 1900. The appellant acted as secretary to the locked-out men, and went on strike pay. After being out for twenty-seven weeks he obtained employment from a Bury firm, Messrs. Thompson & Brierley, who sent him to work upon a contract job at Lytham, paying 8½d. an hour, which was the same wages as was paid at St. Anne's before the lock-out, and a 1d. per hour more than the wages paid at Lytham. However, after about two months' employment, the foreman of the works told him that he should be obliged to discharge him. He had, he said, no fault to find with him, but Thompson & Brierley had had a communication from the Masters' Federation about the appellant's being employed by them, and drawing their attention to the rule of the Federation that no member should employ a workman who was out in consequence of a dispute with any other member of the Federation. The appellant saw Mr. Thompson, who made a similar statement, and said he had no fault to find with the appellant. It appeared that there was no branch of the Masters' Federation at Lytham, but the learned counsel said that the St. Anne's branch of the Federation had brought the matter under the notice of the General Federation of Master Builders of Lancashire and Cheshire, who supported the local branch in bringing pressure to bear upon the appellant's employers, and the appellant was ultimately discharged, although seven of the men who were locked out at St. Anne's and were employed at Lytham, were not interfered with. It was said that the reason of this was that the appellant was a marked man, and it was determined to make an example of him. This allegation, however, was denied by Mr. Sutcliffe, and the County-court Judge held that there was no evidence before him to show that the action of the defendants was dictated by a desire to injure the appellant. On the contrary, the evidence seemed to show that the object of the defendants was to protect their own interests, and, that being so, it was impossible to award the plaintiff damages. He accordingly found for the defendants, but gave appellant leave to appeal to the High Court.

The learned counsel said that one of the rules of the Federation was that in every case of dispute no member should employ any workman who was on strike or locked out from the workshop of another member. Another rule was that members should not supply material or labour to any person who by his action was rendering himself obnoxious to the Federation. He submitted that the defendants had done an actionable wrong in using the means they did to induce Thompson and Brierley to discharge the plaintiff. The right of action did not depend on there being a breach of contract by the employer. In the case of Quinn *v.* Leatham there was no breach of contract with the plaintiff. That decision was not limited to the case of bringing about an actual breach of contract.

The Lord Chief Justice, without calling upon counsel for the respondents, in giving judgment, said he thought the appeal must be dismissed. There was no evidence of any actionable wrong in respect of which the learned County Court judge ought to have found for the plaintiffs. Thompson and Brierley were members of certain trade associations which were affiliated to the Lancashire and Cheshire Federation, which had a rule that no member should employ a workman on strike from the workshop of another member. Apart from the personal position of Thompson and Brierley, it would not be disputed that some combination between masters might be lawful that might get them into trouble and inconvenience if they did not obey the rules of the Association. It was not in consequence of threats that Thompson and Brierley dismissed the plaintiff, but acting within their legal rights, they did not continue to employ the plaintiff. He thought the learned County Court Judge was right, and his decision must be affirmed.

Justices Wills and Channell concurred, and the appeal was accordingly dismissed.

Leave to appeal was given.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

13,652.—APPLIANCES FOR DREDGING APPARATUS: *R. A. Hadfield and P. B. Brown.*—To furnish renewable wear-resisting surfaces the body, made of cast-iron or steel, and squared with rounded corners, consists of the chain-drum, roller, or tumbler, with an outer shell of manganese steel; between those two parts is inserted a layer of spelter or other backing that can be easily melted out for replacement of the worn cage, or shell. The cage, which is keyed to the body at the corners, is made of two end portions, having flanges and four connecting parts lengthwise. There are recesses for the pouring in of the molten spelter, and lips upon the body obviate the escape or loosening of the spelter backing.

13,654.—A CONTRIVANCE FOR FASTENING THE ENDS OF HOISTING-ROPES: *Sir W. G. Armstrong, Whilworth & Co.*—A contrivance especially intended for use with hoists includes a bolt, whereof the enlarged end is pierced for taking the wire or other rope that is coiled within a spiral groove having a diminishing pitch, and is made fast with a clamping screw.

13,684.—CANS AND BRUSHES FOR PAINT, VARNISH, GUM, &C.: *H. Nutter.*—The flange of the brush-handle will lie upon the annular flange of the can and be pressed against it by the cover that lies upon the projecting end of the brush. In one of the several variant forms for the adjustment of the can and brush, the former has a cone-shaped piece extended downwards, which protects the latter; or the flange of the can is removable and will rest upon a detached frame within the can, or will fit in a groove in the can. A socket in the brush will take an extension-piece.

13,737.—A JOINT AND BRACKET FOR BEAMS: *E. F. Kelaart.*—The bracket is fashioned with a dovetailed and tapered key to be fitted into a socket-piece which is affixed to the wall. For joining beams together endwise the inventor devises a similarly shaped tongue to be inserted into a corresponding groove; otherwise he forms dovetailed and tapered grooves at the ends of both beams, which will take a double key, by which means the beams may be firmly drawn to one another.

13,764.—A BRASS JUNCTION FOR SOIL-PIPES: *T. W. Rogers.*—A wiped joint forms the connexion for the soil-pipe of an intermediate closet, the socket is extended in order that the lower end of the upper soil-pipe shall telescope into the lengthened socket, and thus provide for the ready disengagement of the pipe below the junction with the joint.

13,776. — WINDOW-SASH FASTENINGS: *J. B. Midgley.*— To render sash-cords unnecessary the frame is fitted with racks, having angular teeth turned upwards, for engagement with spring catches secured to the sash which one cannot lower unless the catches have been withdrawn, though the catches allow of the sash being raised. As the

racks of the lower sash do not reach to the bottom of the frame the catch will engage underneath it and so prevent the sash from being lifted until the catch has been freed—the engagement of the catch may also be effected with a slot or recess in the rack. The teeth of the racks are made square when the working of the catches is to be dispensed with. In the former mode the catch should comprise a spring-regulated bolt that works in a tube and has a handle.

13,793.—MAKING OF CEMENT: *H. Passow.*—To the cooled and ground slag of the raw ingredients (for which confer No. 14 278 of 1900) is added from ½ to 5 per cent. of lime, after hydrate water has been removed with heat, but the addition of the lime will depend upon the absence of free lime from the mass which should be tested by mixing the ground product with water and exposing it to the action of carbonic acid. If no increase of temperature ensues the mass contains no free lime.

13,813.—APPARATUS FOR LOCKING THE HANDING-ROPES OF LIFTS: *G. Hail.*—For locking the rope at the opening of a well-door it is passed through a guide on the cage-top, and in its plane are set two cams, one upon an axle mounted upon a pivoted link and the other on a fixed axle. The arm of a weighted and pivoted bell-crank lever engages with the former axle, and the lever is linked to the core of a solenoid to be energised at every opening of the door, the axle being then shifted towards the left hand. If the rope moves the cam will be turned, and together with it, through teeth, the other cam on the fixed axle so as to jam and lock the rope. Under normal conditions flats upon the two cams are opposite one another, whereby the weight of the core will act so as to draw the cam on the linked axle from contact with the rope.

13,814.—MEANS OF ESCAPE FROM FIRE: *P. Macrae*—Gearing from a main shaft extends or contracts, and turns about a vertical or a horizontal axis, a fire escape which is similar in construction to a crane having a lazy-tongs jib. An extension ladder is hinged at the top, and ladders are attached to the links of the lazy tongs. A rope wound upon a windlass supports a lowering cage.

13,817.—FLOORING IN MOSAIC AND PARQUETRY: *E. Wuhrmann.*—Blocks or prisms roughly cut from green wood are firstly dried and then finished in a planing machine, or with tools and files. For making boards or slabs, wooden blocks are nailed cross-wise to one another in such a manner that the ends of the nails meet in the middle and turn one another aside, whilst other nails are driven lengthwise both above and below them. The specification includes a machine for driving in the nails, of which the hammers for the transverse nails are forced outwards with double crown cams against the pressure of springs. A hopper, a notched roller, and a shoot, feed the other nails to a forked carrier, which is sustained in its upper and lower places by cams, and notched bars hold up an abutment plate behind the blocks, which is shifted one notch at a time.

13,821.—IMPROVEMENTS IN STEP LADDERS: *R. N. Smith, S. Paget, and S. H. Horseman.*—In one form the inventors cause stay-rods to slide between pivoted discs that are clamped with screws and wing-nuts, the sliding of the rods within the discs being restricted with heads at the ends of the rods. In another form the stay-rods are supplanted with slotted stay-links that are pivoted on to the sides and back supports of the ladder, and are clamped to one another in any position desired with a wing-nut threaded upon a screw.

13,835.—PROCESS OF MOULDING CONCRETE PAVING BLOCKS, SLABS, AND SIMILAR GOODS: *G. P. Wallis*—The side of each mould is secured to a carriage mounted upon rails, the movable closing-side is slotted for engagement with the two ends which are pivoted on to the first-named side, and is worked with a hand-wheel, eccentrics, and worm-gearing. Moisture can escape through a perforated and loose bottom-plate, wherein are recesses that take lifting-bars for handling and stacking the slabs. An endless rope moves the moulds between the plungers of the press. The mould can be attached on to either side of the rope, and be moved in either direction, by means of clutches upon the mould-carriage that are worked with hand-wheels.

13,866.—BUILDING-BLOCKS, &C., FOR INSULATING PURPOSES: *T. New.*—In order to obviate the transmission or interchange of heat in buildings, storage plants, and similar constructions, closed wooden boxes made with paper divisions consisting of two thin flat sheets spaced with a corrugated sheet are devised for building-blocks, into which wooden distance-pieces are inserted. A fireproof and waterproof composition, such as silicate of soda treated with chloride of calcium, is applied as a coating to the partitions, joints, and casings. A layer of coarse cloth or fibre is interposed between the blocks in the course of building, and their surfaces are coated with the composition.

13,880.—A METAL-WORKER'S PATTERN PROTRACTOR: *F. M. McFarland.*—The instrument is intended for use by metal-workers in laying out patterns for pipe elbows and so on, and to facilitate the accurate determination of edges curved in accordance with certain scales and measurements. The body has a lower straight-edge, from which the measurements are taken as a base, and parallel with it is a base-line from which all measurements on the instrument are calculated. From one end of the base-line, and close to the left (vertical) edge, which is at 90 deg. to the straight-edge, is a degree scale. At the right end of the base-line is pivoted an arm having a straight-edge, and from the pivot as a centre are struck a quadrant, with its tangent, and a line at 45 deg. The arc of the quadrant is divided into equal parts, and from those points on the arc are drawn vertical lines to the base-line. Perpendicular lines are drawn from the base-line at distances from the pivot centre of ½ in., 1 in., 1½ in., which distances are the radii of pipes having diameters of 1 in, 2 in., 3 in. The degree-scale up the vertical edge is graduated at points which are respectively twice the angles made by the pivoted arm and the base-line. The pivot centre and the vertical lines at their points on the base-line have sunken cavities for taking the points of compasses or dividers. There are other measuring lines on the body for describing the edge curves of the elbow pattern or section required, and a graduated semicircle on the back of the plate serves as an ordinary protractor.

13,890. — PANELS FOR FLOORS, CEILINGS, PAVINGS, AND LININGS FOR BUILDINGS: *W. T. Crosse.*—The panels consist of boards, blocks, or laths that have dovetailed grooves and will interlock with one another; they are then fastened together with cement, nails, glue, or rivets. The invention is applicable for parquetry panels, which may be cut skew-wise or be squared.

13,940.—ELECTRICAL LIGHT INSTALLATION: *Moore Electrical Co.*—The inventors use an alternating current having a "peaked" wave and relatively low frequency and potential in vacuum-tube lighting. For a reduction of striation in the luminous tubes the generator should have a minimum of self-induction. The slots are much wider than are the teeth in the stator of the dynamo, and an annulus—or, in another form, a ring—that will take the exciting coil forms the magnet. A toothed ring on a disc carried on the shaft turns between one edge and a laminated toothed ring which is fitted upon the other edge. The installation will comprise incandescent lamps.

13,948.—IMPROVED MECHANISM FOR LOCKS AND LATCHES: *R. W. H. Rodney and F. H. Parkes.*—The inventors discard levers and springs, the spring of the latch bolt excepted. A guide block is riveted on to the casing, and its edge is fashioned with recesses and projections that will register with the bit of the key. They arrange an engaging projection from the bolt with which the key will engage in such a manner that one cannot move the bolt unless the bit corresponds exactly with the guiding block. The middle portion only of the key will work the bolt when the sides of the engaging projection are cut away.

13,958.—AN INDICATOR FOR ELECTRICAL MEASUREMENT AND OTHER PURPOSES: *C. D. Haskins.*—A line which is set at an angle to a linear scale is to be moved crosswise, and an observation is taken of the point of intersection of the line and the scale edge. The line may consist of a curved steel or aluminium strip upon arms on an axle, or of a slit in a hollow cylinder illuminated from within, or it may be drawn obliquely upon a cylinder of some light material. The scale may be marked upon an opaque plate with a slot parallel to the axis of the cylinder through which one can see the indicator, and a uniform scale for use with any measuring apparatus will be provided by drawing the indicating line by calibration of the instrument.

13,968.—A FASTENING FOR DOORS AND SIMILAR USES: *W. F. Hooper.*—The bolt of a spring-catch is fashioned in one piece with a block which slides on the face of a plate. Projections from the block engage with cam-shaped parts on to which the handle is pivoted; one can withdraw the bolt when the handle has been lifted. A straight movement of the bolt is effected by means of spiral or leaf springs that act upon the block, and are either placed in recesses or disposed around pins which are guided in recesses cut in the block.

MEETINGS.

FRIDAY, NOVEMBER 7.

Architectural Association.—Mr. F. C. Eden on "Roof Coverings." 7.30 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. Max Clarke on "Calculations, Measurements, and Plans and Sections." 7 p.m.

Egypt Exploration Fund.—Address by the President, Sir J. Evans, K.C.B., and address by Professor Petrie. 4 p.m.

Birmingham Architectural Association.—Mr. R. Johnson, M.Inst.C.E., and Mr. H. E. Werner on "Armoured Concrete."

SATURDAY, NOVEMBER 8.

Sanitary Institute (Demonstrations for Sanitary Officers).—Inspection at Richmond Main Sewerage Pumping Station and Purification Works, Kew Gardens. 2.30 p.m.

The Craft School, 137, Globe-road, Bethnal Green, E.—Mr. C. Spooner on "The Study of Old Furniture, with some Suggestions for Modern Work (with lantern illustrations). 8.30 p.m.

MONDAY, NOVEMBER 10.

Surveyors' Institution.—Opening address by the President, Mr. Arthur Vernon. 8 p.m.

London Institution.—Professor Sir R. Ball on "The Earth's Beginning." Illustrated. 5 p.m.

Clerks of Works' Association (Carpenters' Hall).—Monthly meeting. 7.30 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. Max Clarke on "Sanitary Appliances." 7 p.m.

TUESDAY, NOVEMBER 11.

Institution of Civil Engineers.—Messrs. Charles Hopkinson, B.Sc., Bertram Hopkinson, B.Sc., and Ernest Talbot on "Electric Tramways." 8 p.m.

WEDNESDAY, NOVEMBER 12.

St. Paul's Ecclesiological Society (Chapter House, St. Paul's).—The Rev. H. Bedford Pim on "Some North-West Norfolk Churches." Illustrated by limelight views. 8 p.m.

A.A. Camera and Cycling Club.—The Royal Photographic Society's Affiliation Lecture on "Architectural Photography," to be read by Mr. G. H. Lovegrove. 7.30 p.m.

Northern Architectural Association.—Address by the President, Mr. F. Caws. 7.30 p.m.

Institute of Sanitary Engineers, Ltd.—General Purposes and Finance Committee at 4 p.m.; Election Committee at 5.15 p.m.; Council meeting at 7 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. Max Clarke on "House Drainage." 7 p.m.

THURSDAY, NOVEMBER 13.

Institution of Electrical Engineers.—Premiums awarded for papers read or published during the Session 1901-1902 will be presented. The President, Mr. James Swinburne, will deliver his inaugural address. 8 p.m.

Manchester Society of Architects.—Mr. Halsey Ricardo on "The Revival of Gothic Architecture." 6.45 p.m.

FRIDAY, NOVEMBER 14.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. J. E. Worth on "Water Supply, Sources of Supply, and Distribution." 7 p.m.

SATURDAY, NOVEMBER 15.

Institution of Junior Engineers.—Visit to Messrs. Yarrow & Co.'s Shipbuilding and Marine Engineering Works, Poplar. Train leaves Fenchurch-street at 9.13 a.m.

Sanitary Institute (Demonstrations for Sanitary Officers).—Inspection at the Sewage and Destructor Works, Ealing. 2.15 p.m.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

October 11.—By W. R. J. GREENSLADE (at Taunton).

Buckland St. Mary, Somerset.—Buckland Farm, 156 a. 0 r. 36 p., f., y.r. 112*l.* £2,000

October 14.—By MOSES SMITH & SONS (at Abergavenny).

Skenfrith, Monmouth.—The Wayne Estate, 212 a., f. 2,100

October 23.—By MOSES SMITH & SONS (at Bristol).

Pilning, Glos.—The Rookery Farm, 80 a. 0 r. 20 p., f. 4,575

By G. E. SWORDER & SONS and HAMPTON & SONS (at Bishop's Stortford).

Hunsdon, Herts.—Spellers Farm, 23 a. 2 r. 23 p., f. 2,300

Freehold gravel pit, 1 a. 3 r. 5 p. 165

F.g.r. 8*l.*, reversion in 12½ yrs. 200

October 24.—By A. J. SHEFFIELD.

Southwark.—Burman-st., freehold premises and stabling, e.r. 35*l.* 380

Muswell Hill.—Barnard Hill, &c., two plots of building land, f. 180

October 25.—By G. B. HILLIARD & SON (at Colchester).

Chappel, Essex.—Pope's Farm, 125 a. 0 r. 39 p., f. and c. 600

Tithe rent charge of 62*l.* 12s. 6d. 650

Aldham, Essex.—Eastwood Field, 7 a. 2 r., f. 105

October 27.—By ALDRIDGE & LEVER.

Crouch Hill.—Nos. 56 and 58, f.g.r.'s 20*l.*, reversion in 50 yrs. 675

By INMAN & CRIER.

Notting Hill.—15, 17, 21, 23, and 25, Prince's-rd., f., y.r. 195*l.* 3,050

By JONES, SON, & DAY.

Mile End.—127, St. Dunstan's-rd., f., w.r. 41*l.* 12s. 440

Limehouse.—6, Locksley-st., u.t. 56½ yrs., g.r. 3*l.* 1s., y.r. 35*l.* 320

Poplar.—26, Stainsby-rd., u.t. 28½ yrs., g.r. 5*l.*, y.r. 40*l.* 390

Canning Town.—Becton-rd., two plots of building land, f. 195

Limehouse.—98, Narrow-st (S), f., y.r. 45*l.* 790

October 27.—By WEATHERALL & GREEN.

Bermondsey.—46 to 60 (even), Staple-st., f., w.r. 127*l.* 8s. 1,125

Peckham.—2 to 18 (even), Oglander-st., f., w.r. 312*l.* 3,555

1, 3, 5, 7, 15, 17, and 19, Atwell-rd., u.t. 62 yrs., g.r. 35*l.*, w.r. 244*l.* 8s. 1,800

29 to 41 (odd), 52, 53, and 55, Atwell-rd., u.t. 62 yrs., g.r. 53*l.*, w.r. 349*l.* 14s. 2,570

Battersea.—132, 134, and 136, Meyrick-rd., u.t. 44 yrs., g.r. 13*l.* 10s., w.r. 89*l.* 14s. 640

South Kensington.—3, Onslow-mews (stabling), u.t. 32 yrs., g.r. 15*l.*, p. 130

By W. N. WILLOUGHBY.

Norwood.—1 and 2, Beardell-st., f., y.r. 58*l.* 730

October 28.—By C. H. BROWN.

Pimlico.—38, Claverton-st., u.t. 31 yrs., g.r. 10*l.*, y.r. 60*l.* 570

By DEBENHAM, TEWSON, & CO.

Forest Hill.—115, Sunderland-rd., u.t. 57 yrs., g.r. 12*l.* 10s., y.r. 75*l.* 800

Newington Causeway.—2 and 4, Tiverton-st.; also two railway arches and yard adjoining, area 5,290 ft., part f. and part u.t. 966 yrs., g.r. 10*l.*, y.r. 122*l.* 1,770

By GARVEY & COOK.
Ham, Surrey.—1 to 6, Poynter's-cottages, and plot of land adjoining, f., w.r. 101*l.* 14s..... £1,410
Putney.—35 and 37, Charlwood-rd., u.t. 19 yrs., g.r. 4*l.*, y.r. 67*l.*..... 475
By HAMMERSLEY, KENNEDY, & Co.
Cavendish-square.—Henrietta-st., the Dysart Hotel, u.t. 15 yrs., y.r. 800*l.*, including good-will, furniture, &c. 4,000
By ERNEST OWERS.
Hampstead.—81 and 83, Broadhurst-gdns., u.t. 79 yrs., g.r. 20*l.*, y.r. 130*l.* 1,165
By PEACEY & FULLER.
Pinner, Middlesex.—Harrow-rd., Rodmersham House, f., p. 1,150
By WALTON & LEE.
Great Marlow, Bucks.—Mill-lane, Thames Lawn, f., p. 3,122
By FREDERICK WARMAN.
Highbury.—163, Highbury New-pk, u.t. 47 yrs, g.r. 15*l.*, p. 1,250
Southwark.—1 to 6, Avon-pl., f., w.r. 117*l.* 860
Barnsbury.—142, Hemingford-rd., u.t. 40 yrs., g.r. 2*l.*, e.r. 55*l.*..... 520
2, Barnsbury-ter., u.t. 40 yrs., g.r. 6*l.* 10s., e.r. 45*l.*..... 440
By T. WOODS (at Isleworth).
Isleworth, Middx.—1 and 2, Rolencef villas, f., w.r., 49*l.* 8s. 620
1 to 5, Maynnar cottages, f., w.r. 98*l.* 16s. 1,100
1 and 2, Kent villas, f., w.r. 67*l.* 12s. 810
1 to 5, Trebor cottages, f., w.r. 100*l.* 2s. 1,130
27 and 29, Newry-rd., f., w.r. 52*l.* 710
By J. & W. JOHNSON & Co. (at Masons' Hall Tavern).
Bethnal Green.—Bethnal Green-rd., Bethnal Gate Tavern, u.t, 56 yrs., y.r. 160*l.*, with goodwill 15,850
By SCHOFIELD, EVANS, & Co. (at Masons' Hall Tavern).
Pimlico.—Vauxhall Bridge-rd., The Duchess of Clarence p.-h., u.t. 11½ yrs., y.r. 125*l.*, with goodwill 13,030
October 29.—By EDWIN EVANS.
Wimbledon.—Lonsdale-ter., f.g.r.'s 60*l.* 5s., reversion in 98 yrs. 1,446
Streatham.—Penrith-st., f.g.r.'s 27*l.*, reversion in 95 yrs. 650
By BROWETT & TAYLOR.
Tottenham.—High-rd., f.g.r.'s 50*l.* 4s., reversion in 64½ yrs. 1,328
The Crescent, f.g.r.'s 32*l.*, reversion in 61½ yrs. 798
Deptford.—Stanhope-st., f.g. rents 15*l.* 18s., reversion in 17, 24, and 27 yrs..... 670
Rotherhithe.—Odessa-st., i.g.r. 47*l.* 10s., u.t. 72 yrs., g.r. 25*l.* 400
Peckham.—Sandison-st., The Norfolk Arms p.-h., peppercorn g.r., reversion in 45 yrs..... 160
By DYER, SON, & HILTON.
Old Charlton, Kent.—Charlton-rd., High Combe and Little Combe, area 7 a., f., y.r. 310*l.*.... 9,000
Lower Sydendam.—1 to 9, Lee-ter., area 2 a., f., y.r. 201*l.* 2s., subject to rent charge of 35*l.* .. 1,600
Mottingham, Kent.—14, Grove Park-rd., u.t. 92 yrs., g.r. 10*l* 10s., y.r. 60*l.*..... 595
Lee.—28 and 30, Manor-ln., u.t. 92 yrs., g.r. 12*l.*, e.r. 60*l.* 655
230, High-rd. (S), u.t. 68½ yrs., g.r. 9*l.* 10s., y.r. 55*l.* 690
By GILLOWS'.
Chelsea.—1 to 5, Clover-mews, u.t. 73 yrs., g.r. 100*l.*, y.r. 247*l.* 1,845
By HUMBERT & FLINT.
Watford, Herts.—Park-rd., Elm Grove and 1 a. 3 r. 26 p., f., p. 4,050
October 29.—By R. TIDEY & SON.
Stoke Newington.—51, Milumay-grove, u.t. 47 yrs., g.r. 6*l.* 10s., y.r. 45*l.* 585
Tottenham.—76, Blackboy-lane, u.t. 75¼ yrs., g.r. 5*l.* 5s., w.r. 36*l.* 8s. 195
Wood Green.—12 to 28 (even), Willingdon-rd., u.t. 98 yrs., g.r. 26*l.*, y.r. 112*l.* 890
By DOUGLAS YOUNG & Co.
Islington.—37, Noel-st., f., e.r. 50*l.* 790
Brixton.—135, Stockwell Park-rd., u.t. 39¼ yrs., g.r. 7*l.* 7s., y.r. 38*l.* 340
October 30.—By H. J. BROMLEY.
Forest Hill.—119, Sunderland-rd., u.t. 57 yrs., g.r. 10*l.*, p. 520
By BRADSHAW BROWN & Co.
Norwood.—53, Alexandra-rd., u.t. 52 yrs., g.r. 6*l.*, e.r. 45*l.* 400
Forest Gate.—22 and 24, Lorne-rd., f., e.r. 52*l.* .. 765
Millwall.—53 and 55, West Ferry-rd. (S), u.t. 15½ yrs., g.r. 6*l.*, y.r. 73*l.* 550
3, 5, 7, and 9, Janet-st., u.t. 26½ yrs., g.r. 7*l.* 10s., w.r. 101*l.* 8s. 560
Hackney.—22, Speldhurst-rd., u.t. 36¾ yrs., g.r. 4*l.* 10s., y.r. 30*l.* 275
By CURTIS & SHARP.
Canning Town.—21 to 33 (odd), Clarkson-st., u.t. 83 yrs, g.r. 36*l.* 15s., w.r. 123*l.* 825
Poplar.—61 and 63, Gough-st., u.t. 46 yrs., g.r. 6*l.* w.r. 78*l.* 1,650
Canning Town.—152, Barking-rd. (shop and post office), u.t. 61 yrs., g.r. 8*l.*, y.r. 52*l.* 10s. 1,700
East Ham.—1, The Pavement (S), u.t. 80 yrs., g.r. 8*l.* 8s., y.r. 25*l.* 700
By IZARD & IZARD.
Marylebone.—12, Adpar-st., and 40, Hall-pl. (factory), u.t. 60 yrs., g.r. 23*l.* 15s., e.r. 120*l.* 250
By KEMSLEYS'.
Woodford Green, Essex.—High-rd., Forest House and block of building land in rear, f., p..... 835
High-rd., Firleigh, f., p 885
Woodford.—36 and 38, Elm-gr., u.t. 66 yrs., g.r. 5*l.*, w.r. 36*l.* 8s. 215
Leytonstone.—15, 17, and 19, Melford-rd., f., w.r. 79*l.* 6s. 165
By MARK LIELL & SON.
Wimbledon.—33 to 43 (odd), Wandle-rd., u.t. 82 yrs., g.r. 30*l.*, w.r. 171*l.* 12s..... 140
Plaistow.—32, Riles-rd., f., w.r. 23*l.* 8s..... 685
Bromley-by-Bow.—69 and 71, Donald-st., u.t. 30 yrs., g.r. 5*l.*, w.r. 36*l.* 8s. 515
85, Donald-st., f., w.r. 18*l.* 4s. 290
Bow.—27 and 28, Lyal-rd., u.t. 47 yrs., g.r. 6*l.*, y.r. 52*l.* 1,845
Poplar.—54 and 56, Culloden-st., u.t. 70 yrs., g.r. 7*l.* 10s., w.r. 67*l.* 12s. 1,020
East Ham.—46 and 48, Keppel-rd., u.t. 95½ yrs., g.r. 8*l.* 8s., w.r. 50*l.* 14s. 570

By LOWE & GOLDSCHMIDT.
Camden Town.—165, Great College-st. (shop and slaughter-house), f., y.r 120*l.* £2,000
Hampstead.—1, 2, and 3, Squire's Mount-cottages, f., y.r. 110*l.* 2,100
1 to 7, Wildwood-gr., w.r. 250*l.* 8s.; also i.g.r. 8*l.*, u.t. 63½ yrs., g.r. 25*l.* 1,625
By A. F. POCOCK.
Brockley.—134, Drakefell-rd., u.t. 63 yrs., g.r. 6*l.* 6s., y.r. 40*l.* 400
Brixton.—6, Endymion-rd., u.t. 77 yrs., g.r. 7*l.* 10s., y.r. 38*l.* 395
Forest Hill.—11, Allenby-rd., u.t. 74 yrs., g.r. 6*l.*, y.r. 34*l.* 400
155, Devonshire-rd., u.t. 70 yrs., g.r. 6*l.*, y.r. 30*l.* 300
By ROBINS, GORE, & MERCER.
Charing Cross-rd.—1 to 5, Denmark-pl., u.t. 5 yrs., g.r. 23*l.*, w.r. 175*l.* 12s. 160
October 30.—By STIMSON & SONS.
New Bond-st.—Avery-row, The Coach and Horses p.-h., Corporation lease, g.r. 7*l.* 16s. 3½d., y.r. 80*l.* 1,900
Shaftesbury-av.—4, Dansey-yd. (warehouse), f., y.r. 140*l.* 2,400
Westminster.—16, Dartmouth-st. (S), f., y.r. 100*l.* 2,000
Notting Hill.—20, Horbury-cres., f., y.r. 65*l.*.... 1,100
Wandsworth.—17, 19, 21, 23, 29, 31, 33, 41, 45, and 47, Wakehurst-rd., u.t. 74 yrs., g.r. 60*l.*, y.r. 326*l.* (in lots) 3,175
Old Kent-rd.—26, Avondale-sq., u.t. 52 yrs., g.r. 6*l.* 10s., e.r. 40*l.* 400
Camberwell.—39 and 41, Jardin-st., u.t. 28 yrs., g.r. 6*l.*, w.r. 65*l.* 390
Bermondsey.—50, Ambrose-st. (S), u.t. 34 yrs., g.r. 5*l.*, y.r. 38*l.* 310
435 and 437, Southwark Park-rd., u.t 50 yrs., g.r. 6*l.*, w.r. 96*l.* 4s. 650
Deptford.—37 and 39, Ravensbourne-st., u.t. 63 yrs., g.r. 7*l.*, w.r. 77*l.* 16s..... 545
By J. A. & W. THARP.
Poplar.—32, Ellerthorpe-st., u.t. 41 yrs., g.r. 3*l.* 3s., w.r. 31*l.* 4s. 215
Canning Town.—46 and 48, Burnham-st. (S), f., w.r. 59*l.* 16s. 450
55 and 57, Edward-st., u.t. 72 yrs, g.r. 1*l.* 10s., w.r. 44*l.* 4s..... 275
Stepney.—104 and 106, Stepney Green, c., w.r. 74*l.* 2s. 715
By HOOKER & WEBB (at Croydon).
Waddon.—Jennett-rd., f.g.r. 11*l.* 5s., reversion in 71 yrs..... 235
Addiscombe.—16 to 21, Hastings-rd., f., w.r. 101*l.* 8s. 1,200
Grant-rd., freehold plot of building land 760
Thornton Heath.—30, 31, and 32, Pridham-rd. East, u.t. 65 yrs., g.r. 7*l.* 5s. 9d., w.r. 39*l.* 10s. 3d..... 305
Croydon.—144, High-st., and 1 and 2, Corney's-yd., area 4,406 ft., f., p. 1,080
28 and 30, Northcote-rd., f., e.r. 52*l.* 855
22 and 24, Lambert's-pl., f., w.r. 33*l.* 16s. 390
Lebanon-rd., Alfriston and Annandale, f., w.r. 59*l.* 10s..... 655
October 31.—By ABB & Co.
Bethnal Green.—28, Pollard-row, f., w.r. 46*l.* 15s..... 550
By DUNCAN & KIMPTON.
Holloway.—48, Alexander-rd., u.t. 51 yrs., g.r. 6*l.*, y.r. 32*l.* 330
By GREEN & SON.
Hackney Wick.—Kieselgubr Wharf, i.g.r. 100*l.*, u.t. 64 yrs, g.r. 30*l.* 1,020
Jessop's Wharf, i.g.r. 60*l.*, u.t. 64 yrs., g.r. 22*l.* 570
Wharf and factory premises, i.g.r. 150*l.*, u.t. 64 yrs, g.r..... 1,180
Hammersmith.—The Creek, &c., "Creek Wharf," area 5,000 ft., f., p. 720
By MAY & PHILPOT.
Brixton.—50 and 52, Tulse Hill, u.t. 16 yrs, g.r. 35*l.*, e.r. 130*l.* 440
By G. PEARCE & SONS.
Hoxton.—59, Grange-st., u.t. 34 yrs., g.r. 5*l.* 5s., y.r. 34*l.* 320
50, Alma-st., u.t. 32 yrs., g.r. 5*l.*, y.r. 38*l.* 340
By F. & W. STOCKER.
Deptford.—10 to 46 (even), Hale-st., f., w.r. 280*l.* 16s. 2,700
27 to 37 (odd), Hale-st., f., w.r. 87*l.* 2s. 770
Lewisham.—53, 55, and 55A, Loampit-vale (S), f., y.r. 195*l.* 3,550
19 to 27 (odd), Vian-st., f., w.r. 117*l.* 1,100
Greenwich.—8, 9, and 10, Thornham-st., f., w.r. 52*l.* 690
5, Greenwich-rd. (S), f., y.r. 42*l.* 610
45A, Blackheath-rd., u.t. 75 yrs., g.r. 2*l.*, y.r. 42*l.* 400
Deptford.—58, 60, 71, and 73, Napier-st., u.t. 43 yrs., g.r. 8*l.*, w.r. 85*l.* 16s. 645
26, 28, and 30, Staunton-st., and 23, Wotton-rd., u.t. 43½ yrs., g.r. 4*l.* 15s., w.r. 107*l.* 18s. 925
New Cross.—13, 15, 16, 26, 31, 35, and 36, Mornington-rd., u.t. 49 yrs., g.r. 14*l.*, w.r. 254*l.* 16s. (in lots)..... 1,920
Brockley.—129, Manor-rd., u.t. 65 yrs., g.r. 6*l.*, y.r. 30*l.* 320
By WESTMORE & YOUNG.
Anerley.—12, Thicket-rd., f., e.r. 85*l.* 895

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; w.r. for weekly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£	s.	d.	
Hard Stocks	1	13	0	per 1,000 alongside, in river.
Rough Stocks and Grizzles	1	10	0	" " "
Facing Stocks	2	12	0	" " "

PRICES CURRENT (*Continued*).

BRICKS, &c.

	£	s.	d.	
Shippers	2	5	0	per 1,000 alongside, in river
Flettons	1	8	0	" at railway depôt
Red Wire Cuts	1	12	0	" " "
Best Fareham Red	3	12	0	" " "
Best Red Pressed Ruabon Facing.	5	5	0	" " "
Best Blue Pressed Staffordshire	4	5	0	" " "
Do., Bullnose	4	11	0	" " "
Best Stourbridge Fire Bricks	4	8	0	" " "
GLAZED BRICKS.				
Best White and Ivory Glazed Stretchers	13	0	0	" " "
Headers	12	0	0	" " "
Quoins, Bullnose, and Flats	17	0	0	" " "
Double Stretchers	19	0	0	" " "
Double Headers	16	0	0	" " "
One Side and two Ends	19	0	0	" " "
Two Sides and one End	20	0	0	" " "
Splays, Chamfered, Squints	20	0	0	" " "
Best Dipped Salt Glazed Stretchers and Headers	12	0	0	" " "
Quoins, Bullnose, and Flats	14	0	0	" " "
Double Stretchers	15	0	0	" " "
Double Headers	14	0	0	" " "
One Side and two Ends	15	0	0	" " "
Two Sides and one End	15	0	0	" " "
Splays, Chamfered, Squints	14	0	0	" " "
Seconds Quality White and Dipped Salt Glazed	2	0	0	" less than best.
Thames and Pit Sand		7	0	per yard, delivered.
Thames Ballast		6	0	" "
Best Portland Cement		31	0	per ton, delivered.
Best Ground Blue Lias Lime		22	0	" "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime				10s. 6d. per yard, delivered.
Stourbridge Fire-clay in sacks, 27s. 0d. per ton at rly. dpt.				

STONE.

	s.	d.	
Ancaster in blocks	1	11	per ft. cube, deld. rly. depot.
Bath "	1	7	" "
Farleigh Down Bath	1	8	" "
Beer in blocks	1	6	" "
Grinshill "	1	10	" "
Brown Portland in blocks	2	2	" "
Darley Dale in blocks	2	4	" "
Red Corsehill "	2	5	" "
Closeburn Red Freestone	2	0	" "
Red Mansfield "	2	4	" "
YORK STONE—*Robin Hood Quality.*			
Scappled random blocks	2	10	" "
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	3	per foot super. "
6 in. Rubbed two sides Ditto, Ditto	2	6	" "
3 in. Sawn two sides slabs (random sizes)	0	11½	" "
2 in. to 2½ in. Sawn one side slabs (random sizes)	0	7½	" "
1½ in. to 2 in. ditto, ditto	0	6	" "
BEST HARD YORK—			
Scappled random blocks	3	0	per ft. cube "
6 in. sawn two sides, landings to sizes (under 40 ft. sup.)	2	8	per ft. super. "
6 in. Rubbed two sides Ditt			" "
3 in. sawn two sides slabs (random sizes)	1	2	" "
2 in. self-faced random flags	0	5	" "
Hopton Wood (Hard Bed) in blocks	2	3	per ft. cube. deld. rly. depôt.
" " " 6 in. sawn both sides landings	2	7	per ft. super. deld. rly. depôt.
" " " 3 in. do.	1	2½	" "

SLATES.

in.	in.	£	s.	d.	
20×10 best blue Bangor		13	2	6	per 1000 of 1200 at rly. dep
20×12 " " "		13	17	6	" "
20×10 best seconds "		12	15	0	" "
20×12 " " "		13	10	0	" "
16×8 best "		7	0	0	" "
20×10 best blue Portmadoc		12	5	0	" "
16×8 best blue Portmadoc		6	0	0	" "
20×10 best Eureka unfading green		15	0	0	" "
20×12 " "		16	10	0	" "
18×10 " "		11	10	0	" "
16×8 " "		8	7	6	" "
20×10 permanent green		10	10	0	" "
18×10 " "		9	0	0	" "
16×8 " "		6	5	0	" "

TILES.

	s.	d.	
Best plain red roofing tiles	42	0	per 1,000, at rly. depôt.
Hip and valley tiles	3	7	per doz. " "
Best Broseley tiles	50	0	per 1,000 " "
Do. Ornamental tiles	52	6	" " "
Hip and valley tiles	4	0	per doz. " "
Best Ruabon Red, brown or brindled Do. (Edwards)	57	6	per 1,000 " "
Do. ornamental Do.	60	0	" " "
Hip tiles	4	0	per doz. " "
Valley tiles	3		" " "
Best Red or Mottled Staffordshire Do. (Peakes)	51	0	per 1,000 " "
Do. Ornamental Do.	54	6	" " "
Hip tiles	4	1	per doz. " "
Valley tiles		8	" " "

See also page [illegible]

COMPETITIONS, CONTRACTS AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Designs for University Buildings, Cape of Good Hope	Agnt.-Gen. for Cape of Good Hope	400*l.*, 200*l.*, 100*l.*	Jan. 31

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Street Works, Gwynfi-street	Glyncorrwg U.D.C.	W. E. Jones, Surveyor, Council Offices, Cymmer, Port Talbot	Nov. 10
Baths, &c., at Infirmary	Belfast Guardians	Young & Mackenzie, Engineers, Belfast	Nov. 11
Sewer, &c.	Shrewsbury Corporation	W. C. Eddowes, Borough Surveyor, The Square, Shrewsbury	do.
Sewers, &c., Kibworth Beauchamp	Market Harborough R.D.C.	J. B. Everard, Civil Engineer, 6, Millstone-lane, Leicester	do.
Broken Granite (200 tons) Brill	Long Crendon R.D.C.	W. Parker, 2, High-street, Thame	do.
House, Stotfield, near Elgin	P. Fairbairn	A. & W. Reid & Wittet, Architects, Elgin	do.
Nurses' Home	Newton Abbot Guardians	S. Segar, Architect, Union-street, Newton Abbot	do.
Street Works, The Hexagon, Fraserburgh, N.B.	.....	A. G. Brown, Witchhill, Fraserburgh	do.
Offices, Harroby-street, &c	Cardiff Corporation	W. Harpur, Civil Engineer, Town Hall, Cardiff	Nov. 12
Sewerage Works, Wootton-road, Gaywood	King's Lynn R.D.C.	W. Cross, Council Omces, King's Lynn	do.
Sewerage Works, High Oakham-road	Mansfield Town Council	R. F. Vallance, Borough Surveyor, Town Hall, Mansfield	do.
Road Works	Birkenhead Corporation	C. Brownridge, Civil Engineer, Town Hall, Birkenhead	do.
Street Works, Wood-street	Mansfield Town Council	R. F. Vallance, Borough Surveyor, Mansfield	do.
Laying Cast-iron Pipes	Hartlepool Gas and Water Co.	Martin & Fenwick, Civil Engineer, 1, Park-place, Leeds	do.
Flagging, Paving, &c	Birkenhead Corporation	C. Brownridge, Civil Engineer, Town Hall, Birkenhead	do.
Road Works, Brompton, near Northallerton	Northallerton R.D.C.	Fairbank & Co., Civil Engineers, Lendal Chambers, Yorks	do
Bridge, Blackley	Manchester Corporation	City Surveyor, Town Hall, Manchester	do.
Schools, Parkeston, Essex	.....	J. W. Start, Architect, Colchester	Nov. 13
Additions, &c., to House, West Green, Crawley	.....	W. Buck, Architect, Horsham	do.
Schools, Ynyslwyd	Aberdare School Board	T. Roderick, Architect, Clifton-street, Aberdare	do.
*New Schools, &c., at Parkestone, Essex	Ramsey School Board	J. W. Start, Architect, Colchester	do.
*Stable Foundations	Borough of Hampstead	Borough Engineer, Town Hall, Haverstock Hill, N.W.	do.
Additions to Offices, Tithe Barn-street	Preston Corporation	Borough Surveyor, Town Hall, Preston	Nov. 14
Road Works	Omagh R.D.C.	W. Cathcart, Board-room Workhouse, Omagh	do.
Thirty Houses, Llantwit Vardre, Wales	.....	A. Bryant, Architect, Pontypridd	Nov. 15
Factory, Belview-avenue, Londonderry	Messrs. Linster Bros. & Co.	J. M. C. Knox, Architect, 2, East-wall, Londonderry	do.
Baths, Drummond-road	Bradford Corporation	F. E. P. Edwards, Architect, Chapel-lane, Bradford	do.
Additions to Workhouse, Bocking	Braintree Guardians	F. Smoothy, 1, New-street, Braintree	do.
Tunnel (3½ mls.) under Masham & Grewelth'rpe Moors	Harrogate Corporation	E. W. Dixon, Civil Engineer, 14, Albert-street, Harrogate	do.
Bridge, Bulingham Beck	.....	M. H. Sykes, Borough Engineer, Stockton-on-Tees	Nov. 17
Station Buildings, Ballybeg	G.N.R. (Ireland) Co	T. Morrison, Amiens-street Terminus, Dublin	do.
Fourteen Cottages	Monaghan (Ireland) R.D.C.	W. M'Mahon, Engineer, Clones	do.
Harbour Works	Watchet (Somerset) U.D.C.	W. T. Douglass, Engineer, 15, Victoria-street, S.W.	do.
Cottages	Chelmsford Guardians	Chancellor & Son, Architects, Chelmsford	do.
Steel Bridges, Newry	G.N. Railway Co. (Ireland)	T. Morrison, Amiens-street Terminus, Dublin	do.
Reservoir, Cast-iron Mains, &c.	Penrith R.D.C.	do.	do.
Cottages, &c., Beddington Corner, Croydon	.....	Borough Engineer, Town Hall, Bootle	do.
Additions to Schools, Abbey-street	Derby School Board	E. Knightley, Council Offices, Newnaven	do.
Presbytery, Gortin, Co. Tyrone	Rev. F. Healy	Engineer to the Corporation, Guildhall, E.C.	Nov. 18
Iron Staircases, &c., at Workhouse	Amersham (Bucks) R.D.C.	Surveyor, Town Hall, Catford, S.E.	do.
Sewerage Works, &c.	Bootle Corporation	T. H. Richardson, Surveyor, Hemsworth	do.
Boundary Wall, &c., Pine Grove	G.N.R. Co. (Ireland)	C. G. Barnett, Town Hall, Ilfracombe	do.
Bridge Works, Newry	do.	W. D. Sang, Civil Engineer, Kirkcaldy	do.
Three Cottages, Tynan Station	Bootle Corporation	Wm. Bell, Architect, York	Nov. 19
Cart Shed, Storerooms, &c., Pine Grove	Newhaven U.D.C.	R. M. Chart, Surveyor, Town Hall, Croydon	do.
Granite Road Metal	Corporation of London	Borough Engineer, Town Hall, Southend	Nov. 20
*Repairing Sewer in London Wall	Borough of Lewisham	Works Department, Admiralty, Northumberland-avenue, W.C.	Nov. 21
*Iron Fencing	Hemsworth R.D.C.	R. P. Wilson, 66, Victoria-street, Westminster, S.W.	Nov. 22
Sewerage Works, Shafton Two Gates	Ilfracombe U.D.C.	F. W. Stevenson, Gas Works, Coventry	do.
Sewerage Works, Chayne	Fife County Council	Graeme-Watt & Co., Architects, 77A, Victoria-street, Belfast	Nov. 24
Sewerage Works, Windygates, near Kirkcaldy	North-Eastern Railway Co.	Borough Engineer, Municipal-buildings, Middlesbrough	do.
Additions, &c., to Railway Station, Hull	Croydon R.D.C.	Borough Engineer, Town Hall, West Ham, E.	Nov. 25
Road Works, Grove-road, Mitcham	Southend-on-Sea Corporation	G. E. T. Lawrence, Architect, Chandos Chambers, Adelphi, W.C.	Nov. 25
Sea Walls, &c.	The Admiralty	J. Grierson, Town Hall, Dumfries	Dec. 1
*Coastguard Buildings, at Grove Point, Portland	Pontypridd U.D.C.	Aston Webb, Architect, 19, Queen Anne's-gate, S.W.	Dec. 11
*Revised Tenders for Generatg. Stn., Offices & Car Shed	Coventry Corporation	Surveyor's Office, 215, Balham High-road, S.W.	Dec. 1
*Two Concrete & Brick Gasholder Tanks, Foleshill Wks.	District Lunacy Committee	.....	No date
Works at Villas, Purdysburn Estate, Belfast	Middlesbrough Corporation	E. H. Burton, Architect, 119, Queen-street, Cardiff	do.
Flags and Kerbs	County Borough of West Ham	S. Dyer, Architect, 29, Quay-road, Bridlington	do.
*Making-up Glasgow, Tweedmouth, Stirling, &c., roads	Swansea School Board	F. H. Collyer, Architect, 8, Bridlesmith-gate, Nottingham	do.
Schools, Hafod	Dumfries Town Council	Borough Engineer, Municipal Offices, Southampton	do.
Electric Lighting Works	Commissioners of H.M. Works, &c.	F. H. Collyer, Architect, 8, Bridlesmith-gate, Nottingham	do.
*Superstructure of Museum, South Kensington	Wandsworth Borough Council	do.	do.
*Bldgs., &c., Waterside Wharf, Jew's-row, Wandsworth	G. Longley	W. & T. R. Milburn, Architects, Newcastle	do.
*House and Stabling, Clarendon-road, Watford	.....	W. Griffiths, Architect, Falcon Chambers, Llanelly	do.
Rebuilding 6 and 7, St. John's-square, Cardiff	.....	do.	do.
Villa, Belgrave-road, Bridlington	.....	do.	do.
Shop, Clumber-street, Nottingham	.....	F. J. Smith, Architect, Parliament Mansions, Victoria-st., S.W.	do.
Car Sheds, Portswood Tram Depot	Southampton Corporation		
Twelve Pairs of Houses, Long Eaton, Notts	.....		
Six Villas, Long Eaton, Notts	.....		
Business Premises, Grey-street, Newcastle-on-Tyne	J. Deuchar, Esq., J.P.		
Two Shops, Cowell-street, Llanelly	.....		
Seven Houses, Gilbert-road, Llanelly	.....		
Additions to the Ashburnham Hotel, Llanelly	.....		
*Alterations at Workhouse	Paddington Guardians		

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Required.	Salary.	Application to be in
*Two Quantity Surveyor's Assistants	London County Council	2*l.* 2s. per week	Nov. 17
*Sanitary Inspector	Metropolitan Borough Woolwich.	115*l.* and rise to 140*l.* per annum	do.
*Draughtsman	Hackney Borough Council	2*l.* 2s. per week	Nov. 18
*Teaching of Drawing	Secretary of State for the Colonies	4,000 Rupees per annum	Nov. 20
*Working Under-Foreman	Portishead District Water Co.	Not stated	No date

Those marked with an asterisk (*) are advertised in this Number. *Competition*, iv. *Contracts*, pp. iv. vi. viii. x. & xxii. *Public Appointments*, xix.

PRICES CURRENT (*Continued*).

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	15 10 0	16 10 0
Deals: best 3 by 9	14 10 0	15 10 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0	12 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds	0 10 0	,, ,, ,,
2 in. by 4 in. and 2 in. by 6 in.	9 0 0	9 10 0
2 in. by 4½ in. and 2 in by 5 in.	8 10 0	9 10 0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	,,
Fir timber: Best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Small timber (6 in. to 8 in.)	3 0 0	3 10 0
Swedish balks	2 15 0	3 0 0
Pitch-pine timber (30 ft. average)	3 5	3 15 0

JOINERS' WOOD.

	At per standard.	
White Sea: First yellow deals, 3 in. by 11 in.	23 0 0	24 0 0
3 in. by 9 in.	21 0 0	22 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	18 10 0
Second yellow deals, 3 in. by 11 in.	18 10 0	20 0 0
,, ,, 3 in. by 9 in.	17 10 0	19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	15 10 0	16 10 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 0 0	22 10 0
Do. 3 in. by 9 in.	18 0 0	19 10 0
Battens	13 10 0	15 0 0
Second yellow deals, 3 in. by 11 in.	16 0 0	17 0 0
Do. 3 in. by 9 in.	14 10 0	16 0 0
Battens	11 10 0	12 10 0
Third yellow deals, 3 in. by 11 in.	13 10 0	14 0 0
Do. 3 in. by 9 in.	13 0 0	14 0 0
Battens	10 0 0	11 0 0
White Sea and Petersburg:— First white deals, 3 in. by 11 in.	14 10 0	15 10 0
,, ,, 3 in. by 9 in.	13 10 0	14 10 0
Battens	11 0 0	12 0 0
Second white deals 3 in. by 11 in.	13 10 0	14 10 0
,, ,, ,, 3 in. by 9 in.	12 10 0	13 10 0
,, ,, battens	9 10 0	10 10 0
Pitch-pine: deals	16 0 0	18 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—First, regular sizes	33 0 0	upwards.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—Planks, per ft. cube	0 3 6	0 4 6
Danzig and Stettin Oak Logs— Large, per ft. cube	0 2 6	0 3 6
Small ,, ,,	0 2 3	0 2 6
Wainscot Oak Logs, per ft. cube	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 7	0 0 8
¾ in. do. do.	0 0 6½	- - -
Dry Mahogany— Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch	0 0 10	0 1 0
Teak, per load	16 10 0	20 0 0
American Whitewood Planks— Per ft. cube	0 4 0	- - -
Prepared Flooring—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	0 17 6
1 in. by 7 in. yellow, planed and matched	0 14 0	0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	1 1 6
1 in. by 7 in. white, planed and shot	0 11 6	0 13 6
1 in. by 7 in. white, planed and matched	0 12 0	0 14 0
1¼ in. by 7 in. white, planed and matched	0 14 6	0 16 6
¾ in. by 7 inch yellow matched and beaded or V-jointed boards	0 11 0	0 13 6
1 in. by 7 in. do. do. dc.	0 14 0	0 18 0
¾ in. by 7 in. white do. do.	0 10 0	0 11 6
1 in. by 7 in. do. do. do.	0 11 6	0 13 6

6-in. at 6d. to 9d. per square less than 7-in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	6 5 0	7 5 0
Compound Girders ,, ,,	8 2 6	9 5 0
Angles, Tees and Channels, ordinary sections	7 17 6	8 17 6
Flitch Plates	8 5 0	8 15 0
Cast Iron Columns and Stanchions, including ordinary patterns	7 2 6	8 5 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON— Common Bars	7 15 0	8 5 0
Staffordshire Crown Bars, good merchant quality	8 5 0	8 15 0
Staffordshire "Marked Bars"	10 10 0	- - -
Mild Steel Bars	9 0 0	9 10 0
Hoop Iron, basis price	9 5 0	9 10 0
,, ,, galvanised	16 0 0	- - -

(* And upwards, according to size and gauge.)

Sheet Iron, Black.— Ordinary sizes to 20 g.	10 0 0	- - -
,, ,, to 24 g.	11 0 0	- - -
,, ,, to 26 g.	12 10 0	- - -

PRICES CURRENT (*Continued*).

METALS.

	Per ton, in London. £ s. d.	£ s. d.
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes 6 ft. by 2 ft. to 3 ft. to 20 g.	12 15 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 5 0	- - -
Sheet Iron, Galvanised, flat, best quality:— Ordinary sizes to 20 g.	16 0 0	- - -
,, ,, 22 g. and 24 g.	16 10 0	- - -
,, ,, 26 g.	18 0 0	- - -
Galvanised Corrugated Sheets:— Ordinary sizes, 6 ft. to 8 ft. 20 g.	12 15 0	- - -
,, ,, 22 g. and 24 g.	13 5 0	- - -
,, ,, 26 g.	14 5 0	- - -
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12 0 0	- - -
,, ,, 22 g. and 24 g.	13 0 0	- - -
,, ,, 26 g.	14 5 0	- - -
Cut nails, 3 in. to 6 in. (Under 3 in. usual trade extras.)	9 5 0	9 15 0

LEAD, &c.

	Per ton in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3 lbs. & up.	13 7 6	- - -
Pipe in coils	13 17 6	- - -
Soil Pipe	16 7 6	- - -
Compo Pipe	16 7 6	- - -
ZINC—Sheet— Vieille Montagne ton	25 0 0	- - -
Silesian	24 10 0	- - -
COPPER— Strong Sheet per lb	0 0 10	- - -
Thin ,,	0 0 11	- - -
Copper nails ,,	0 0 11	- - -
BRASS— Strong Sheet ,,	0 0 9	- - -
Thin ,,	0 0 10	- - -
TIN—English Ingots ,,	0 1 3	- - -
SOLDER—Plumbers' ,,	0 0 6½	- - -
Tinmen's ,,	0 0 8½	- - -
Blowpipe ,,	0 0 9½	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2⅞d. per ft. delivered.
,, fourths	1⅞d. ,, ,,
21 oz. thirds	3½d. ,, ,,
,, fourths	2½d. ,, ,,
26 oz. thirds	4d. ,, ,,
,, fourths	3½d. ,, ,,
32 oz. thirds	5d. ,, ,,
,, fourths	4½d. ,, ,,
Fluted sheet, 15 oz.	3d. ,, ,,
,, 21 ,,	4d. ,, ,,
⅛ Hartley's Rolled Plate	1⅞d. ,, ,,
⅛ ,, ,, ,,	2d. ,, ,,
¼ ,, ,, ,,	2½d. ,, ,,

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes or barrels	per gallon	0 2 3
,, ,, in drums	,,	0 2 6
Boiled ,, in pipes or barrels	,,	0 2 5
,, ,, in drums	,,	0 2 8
Turpentine, in barrels	,,	0 3 3
,, in drums	,,	0 3 5
Genuine Ground English White Lead	per ton	21 0 0
Red Lead, Dry	,,	20 0 0
Best Linseed Oil Putty	per cwt.	0 8 6
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 6
Superfine Hard-drying Oak, for Seats of Churches	0 14 0
Fine Elastic Carriage	0 12 6
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Copal Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 6
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

TO CORRESPONDENTS.

S. S. P. (Amount should have been stated).—B. and V. B. (Too late: next week).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

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All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays*. N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

*** Denotes *accepted*. † Denotes *provisionally accepted*.**

BRIGHTON.—For the supply of granite, kerbing, and channelling, for the Town Council. Mr. F. J. C. May, C.E., Town Hall, Brighton:—

—	Description of Granite.	Flat Kerb, 12 in. by 6 in., at per foot run. s. d.	Channel, 12 in. by 6 in., at per foot run. s. d.	Channel, 10 in. by 6 in. at per foot run. s. d.
Manuelle & Co., London*	Norway	1 2	1 1½	1 1
W. Wilson	,,	1 3	1 2	1 1
Blichfeldt & Co.	,,	1 3½	1 2½	1 2
Van Praagh & Co.	,,	1 3½	1 3½	1 2½
Goodchild & Co.	,,	1 3½	1 3½	1 2½
A. Robinson	Irish	1 2	1 2	1 0
Watson & Co., Ltd.	,,	1 3	1 2	1 0
R. W. Cottrell	,,	1 5	1 4½	1 4
Manuelle & Co.	Guernsey	1 7	1 6½	1 4½
Brunton & Son	Scotch	1 6	1 5	1 4
The Road Maintenance and Stone Supply Co, Ltd.	French	1 3	1 2½	1 2¼

BUXTON.—For laying a C.I. sewer, constructing six filter-beds, &c., for the Urban District Council. Mr. W. H. Grieves, Surveyor, Town Hall, Buxton:—

J. Holme	£11,281 15 3	Robson & Son	£8,952 11 4
C. Chamberlain	10,553 19 10	W. Bradshaw	8,874 6 5
Bentley & Loch	9,703 13 1	Embrey & Co.	8,452 7 8
Oakes Bros.	9,674 7 7	A. J. Cottle	7,778 2 7
Johnson & Langley	9,617 12 11	Ainscoatle & Son	7,514 18 2
Hayes Bros.	9,252 4 1	J. S. Dawson, Lower Bredbury, Stockport*	7,148 18 1
W. R. Alnwin	9,247 15 10		

CARDIFF.—For the erection of public conveniences, Beresford-road and Fairoak-road, Roath, for the Corporation. Mr. W. Harpur, C.E., Town Hall, Cardiff. Quantities by Engineer:—

	Beresford-road Convenience.	Fairoak-road Convenience.
F. Small	£218	£161
A. W. Cadwallader	207	160
Gough Bros.	177	125
W. T. Morgan	176	126
Knox & Wells*	165	121

[All of Cardiff.]

CARLTON (Notts.).—For the erection of an isolation hospital, for the Worksop and Blyth and Cuckness District Isolation Hospital Committee. Mr. Fred. Hopkinson, architect, 40, Bridge-street, Worksop. Quantities by architect:—

E. Rowsell	£6,592 0	Gill & Son	£4,977 0
Cahill & Leverton	6,590 6	Green & Co.	4,895 0
Bowles & Son	6,575 0	Holdsworth & Son	4,778 0
Vickers, Ltd.	5,990 0	Ilett & Sons, Worksop*	4,745 0
Geo. Wright	5,259 0		
Vickers & Son	5,166 0		

[Architect's estimate, £4,920.]

CRADLEY HEATH (Staffs.).—For the construction of stoneware pipe sewers, High-street, &c., for the Quarry Bank Urban District Council. Mr. W. Fiddian, engineer, Old Bank Offices, Stourbridge. Quantities by engineer:—

T. Rowland	£1,497 0 0	Saunders & Son	£982 17 0
Cruwys & Hobrough	1,180 11 6	E. Boore, 257, Bearwood-road Smethwick*	968 12 8
J. Mackay	1,096 1 2		
T. Vale	1,092 9 6		
J. A. Meredith	1,061 12 3		
T. Allsopp	987 0 0		

CROYDON.—For the erection of a house at Purley for Mr. Alfred Harley. Mr. F. Owen Moore, architect, 12, Cornford-grove, Balham, S.W.:—

W. Manning	£1,698 0 0	Chapman & Son	£1,096 0 0
D. Roberts	1,397 0 0	W. Hine	1,071 1 6
J. Robinson	1,234 0 0	Executors of E. Goulder	1,070 0 0
W. Walker	1,205 0 10	Simmons & Co.	1,050 0 0
Smith & Sons	1,180 0 0	Gathercole Bros., Norbury*	1,029 0 0
J. Westbrooke	1,140 0 0		
Smart & Sons	1,124 10 6		
W. H. Baldwin	1,118 15 0		
A. G. Wright	1,110 13 5		

ECCLES (Lancs.).—For the erection of mortuary buildings, Patricroft, for the Corporation. Mr. T. S. Picton, C.E., Town Hall, Eccles:—

Hardman & Jones, Eccles £228 16

LEEDS.—For the erection of a shed, Antwerp Mills, Armley. Mr. C. S. Nelson, architect, 15, Park-row, Leeds:—

Masonry and Bricklaying.—Esdras Wales, Armley, Leeds* .....
Carpentering and Joinery.—J. Trukitt & Son, Bramley* .....
Ironfoundry.—L. Cooper, Leeds* .....
Plumbing.—J. Lindley, Leeds* .....
Slating.—J. Atkinson & Son, Leeds* .....
Painting.—E. Greaves, Leeds* ..... } £2,760 13 2

[*See also next page.*

LIGHTCLIFFE (Yorks).—For the erection of four houses, near the Old Church, for Mr. William Wood, Hesketh-place, Lightcliffe, near Halifax. Messrs. Walsh & Nicholas, architects, Museum-chambers, Halifax :—

Masonry. — Butterworth & Smith, Wyke	£527	15	0
Joinery.—M. Woodhead, Lightcliffe ..	142	0	0
Plumbing.—S. Jagger, Lightcliffe	30	12	6
Plastering.—A. Firth, Brighouse ..	29	10	0
Slating.—J. Jackson, Wyke	40	8	6
Painting.—G. E. Firth, Halifax	12	10	0

LONDON.—For three lantern louvres on roofs over steam generating dust destructor building, Wentworth-street, E., for Metropolitan Borough of Stepney. Mr. M. W. Jameson, Borough Engineer :—

Calman & Son.....	£165	Parrott & Isom	£129
J. I. Robey.....	149	Johnson Bros., 168, Whitechapel - road, E.*	117
Watts, Johnson, & Co.	137		

LONDON.—For the manufacture, delivery, and erection of surface condensing plant, with all accessories complete, on the eight beam engines at the Abbey Mills pumping station, for the London County Council :—

Alley & MacLellan	£23,230	0	0 !
Bertrams, Ltd.	14.451	0	0
Klein Engineering Co , Ltd.	13,600	0	0
John Fraser & Son.....	13,455	0	0
Woodhouse & Mitchell, Ltd.	12,603	0	0
Mather & Platt, Ltd.	12,500	0	0
Isaac Storey & Sons, Ltd.	12,020	0	0
Newton, Benn, & Mitchell	11,943	0	0
East Ferry Road Engineering Works Co., Ltd.....	11,844	0	0
Cole, Marchent, & Morley, Ltd. ..	11,733	0	0
Couper, Schwarz, & Co.	11,165	0	0
Amos & Smith.....	10,260	0	0
Easton & Co., Ltd.	10,120	8	0
Clayton, Goodfellow, & Co., Ltd...	9,850	0	0
Sir Hiram Maxim Electrical and Engineering Co., Ltd.	9,429	11	6
Grant Ritchie & Co.....	8,820	0	0
D. Stewart & Co. (1902) Ltd.	8,447	10	0
John Cochrane.....	8,400	0	0
Mirlees Watson Co., Ltd.....	8,050	0	0
Ashton, Frost, & Co , Ltd.*	7,995	0	0 !

MARGATE.—For the supply of flints and broken granite, for the Town Council. Mr. E. A. Borg, Borough Surveyor, Town Hall, Margate :—

Flints.

T. Tobin, Margate..... £0 6 0 per cubic yard.

Granite.

J. Runnalls, Penzance .. 0 12 0 per ton.

NANTWICH.—For additions, &c., to workhouse, for the Guardians. Mr. C. E. Davenport, architect, Hospital-street, Nantwich. Quantities by architect :—

Jesse Williams £230	0	J. T. Gresty, Willaston*	£198 10
J. F. Heywood.... 210	0		
Cox & Vaughan .. 199	10		

PENZANCE.—For the erection of a lavatory, Princes-street markets and Promenade lavatory, for the Corporation. Mr. F. Latham, C.E., Public-buildings, Penzance :—

Edward Pidwell	£300	0	0
Nicholas & Son.....	129	9	6

RADCLIFFE COLLIERY (Northumberland).—For the erection of club premises. Mr. G. Reavell, jun., architect, Alnwick —

D. D. Hall, Gateshead-on-Tyne* £1,430 13

SOUTHAMPTON.—For the supply of granite chippings, macadam, &c., for the Corporation. Mr. J. A. Crowther, Borough Engineer, Municipal Offices, Southampton :—

Sandell Brothers, Southampton*	¾-in. granite chippings,	8s. per ton.	
	1½-in.	do.	9s. 6d. per ton.
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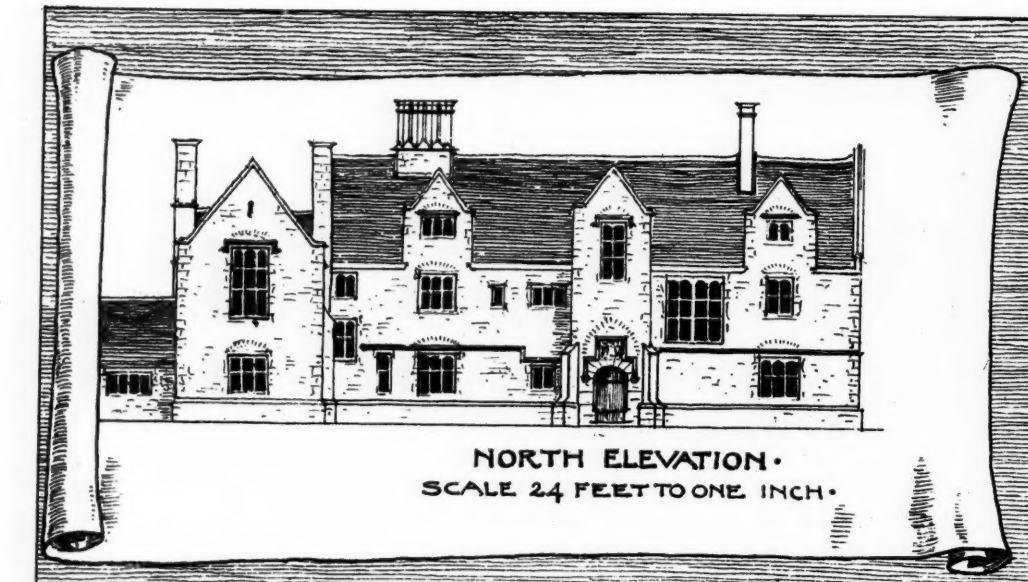

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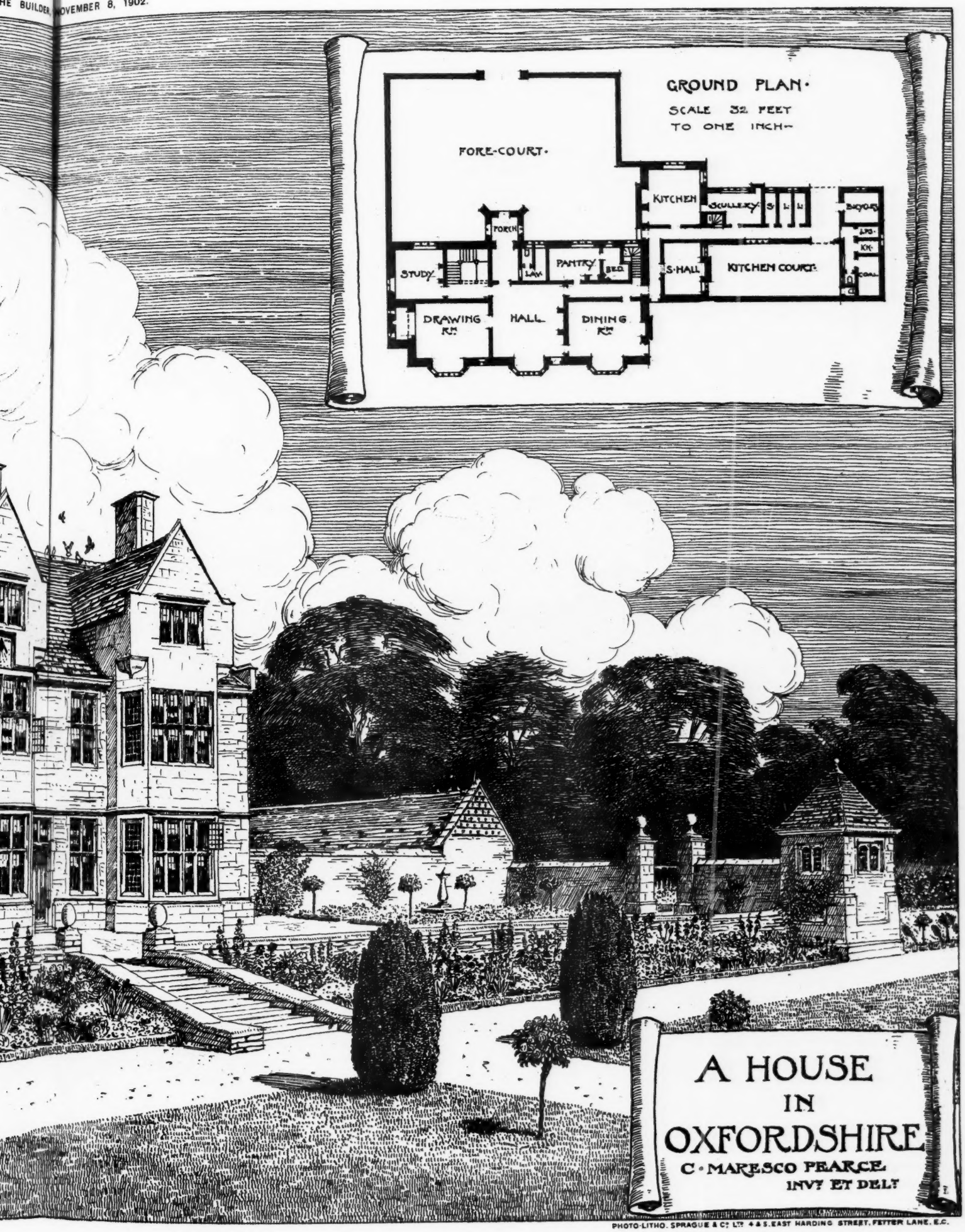

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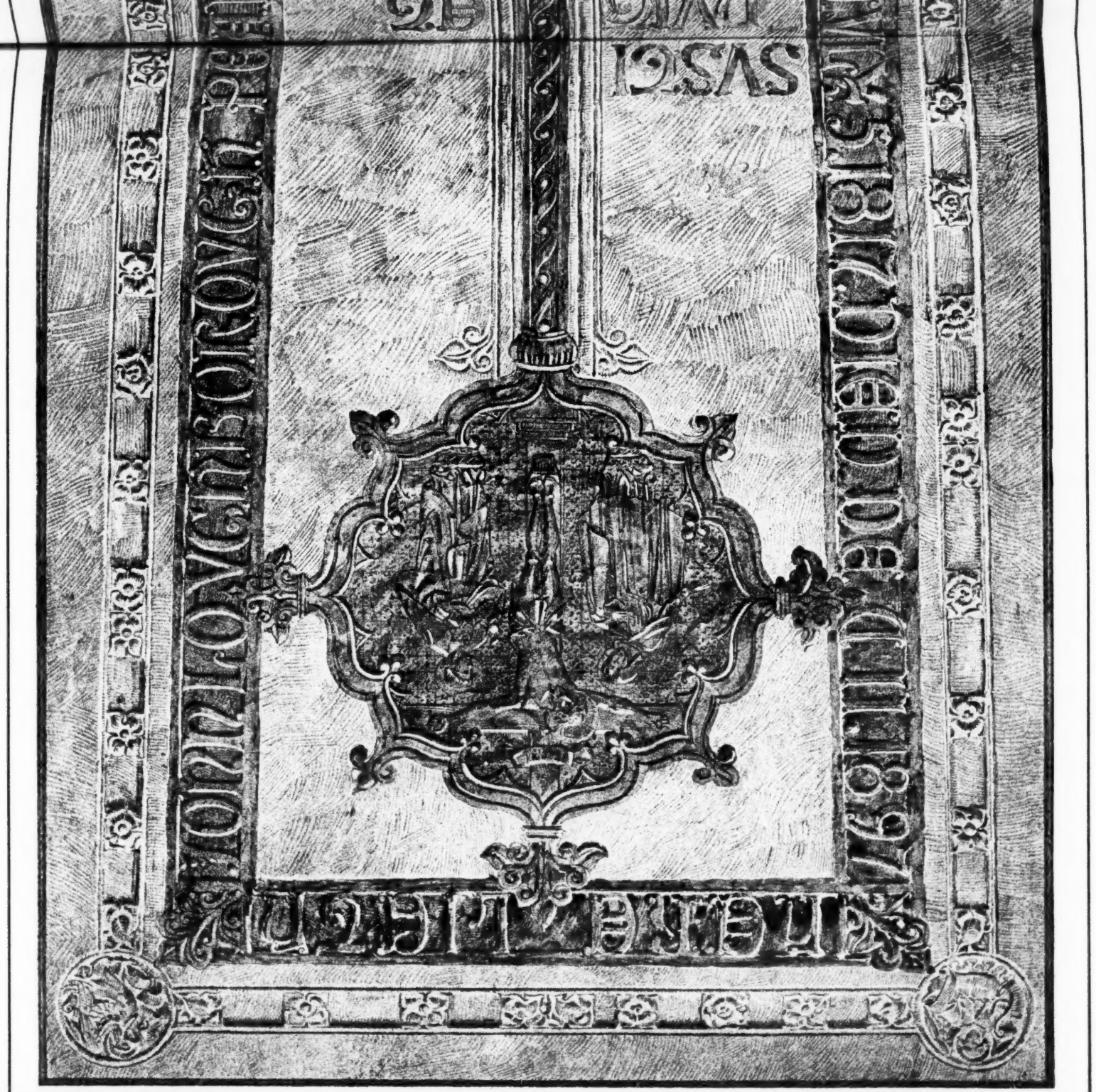

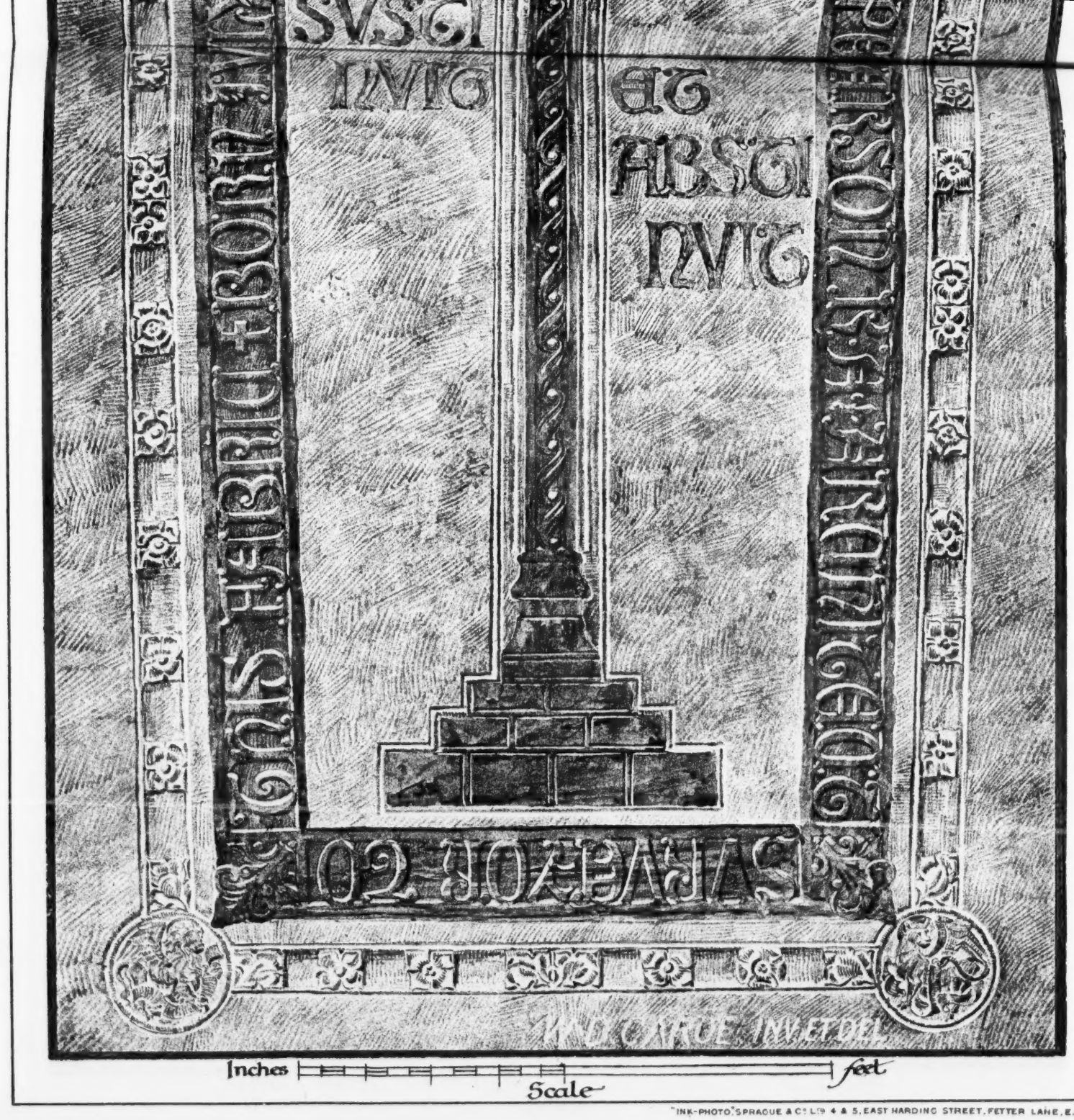

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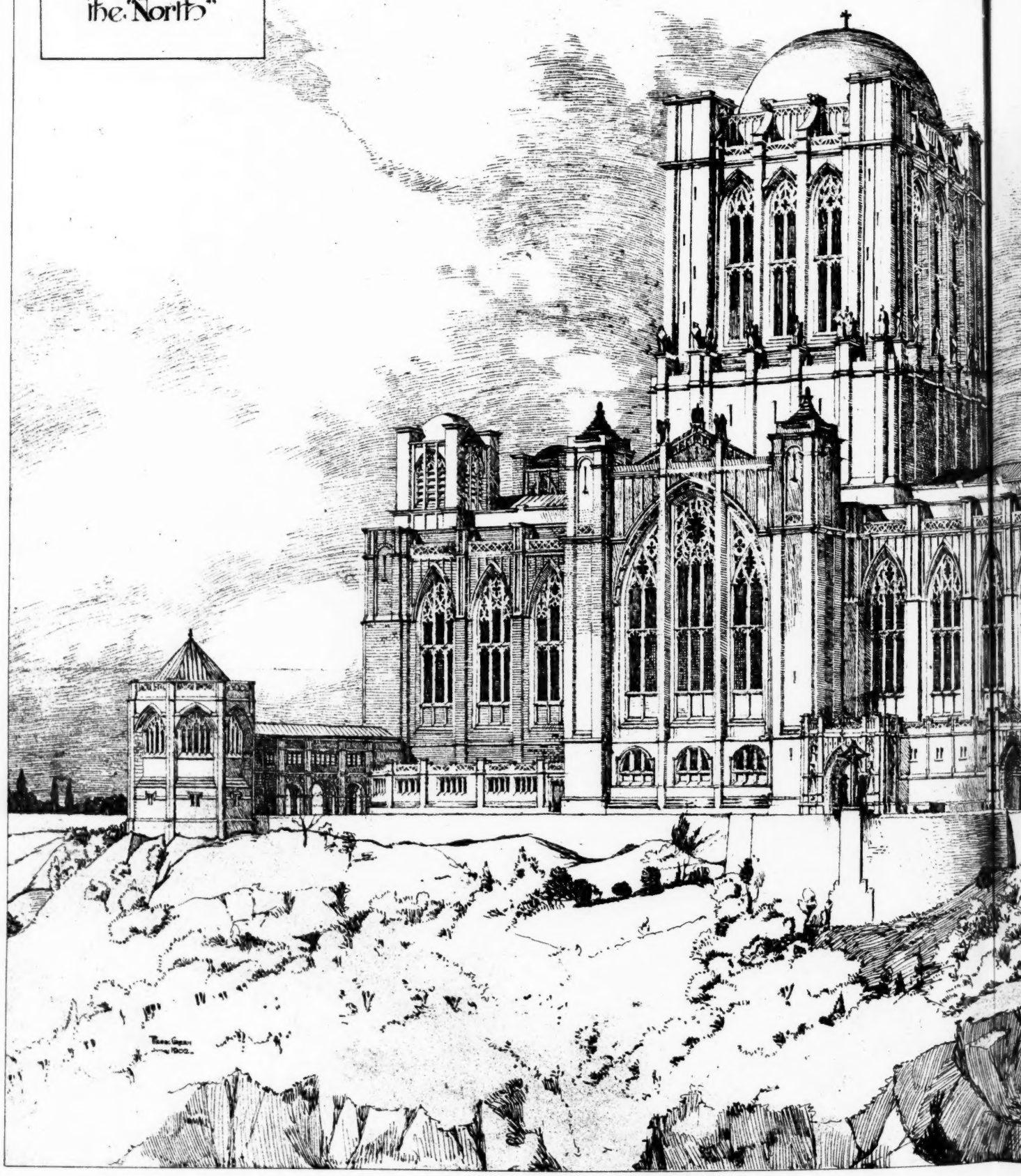
A Sketch Design

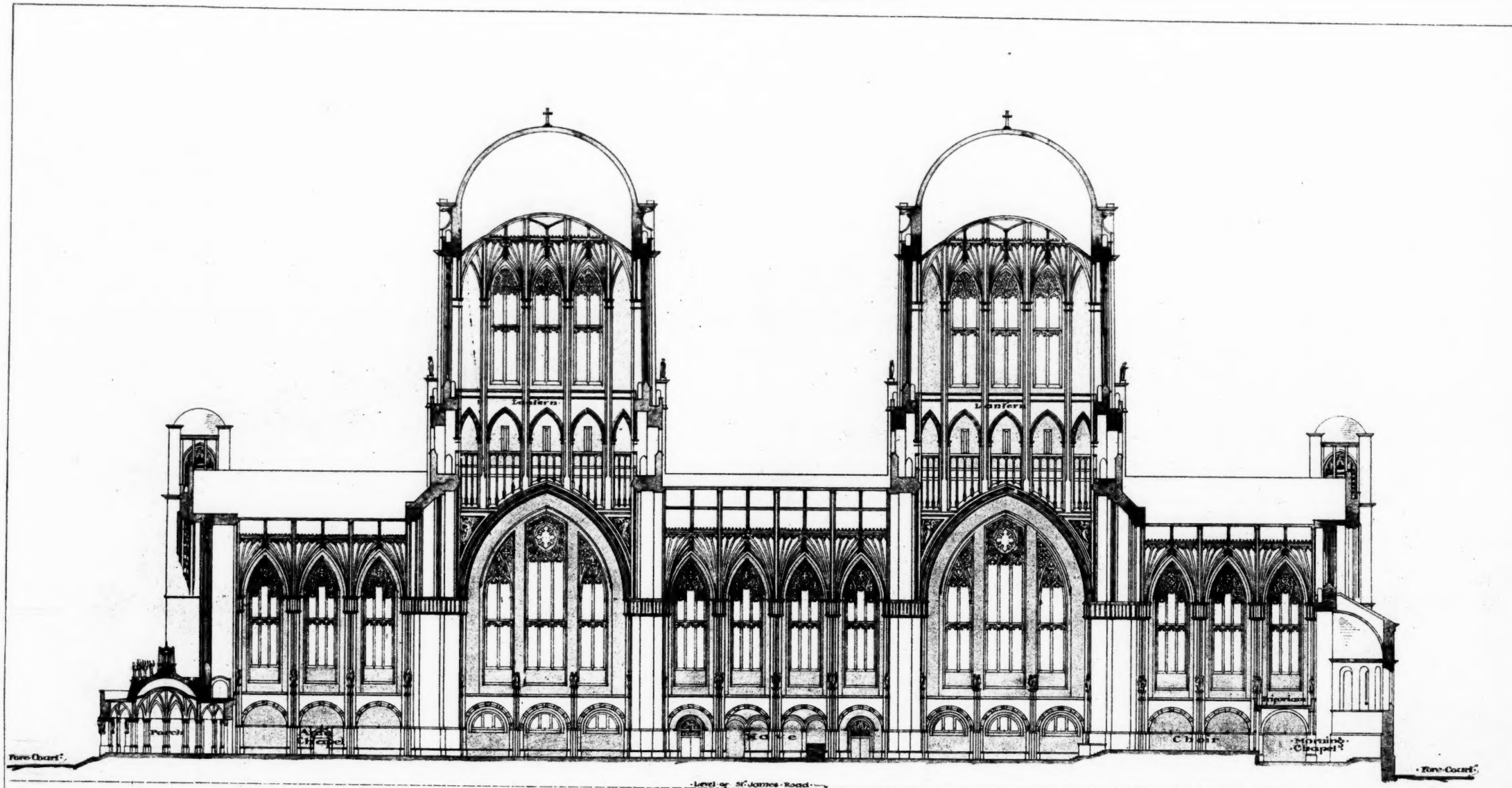
View from the "North"



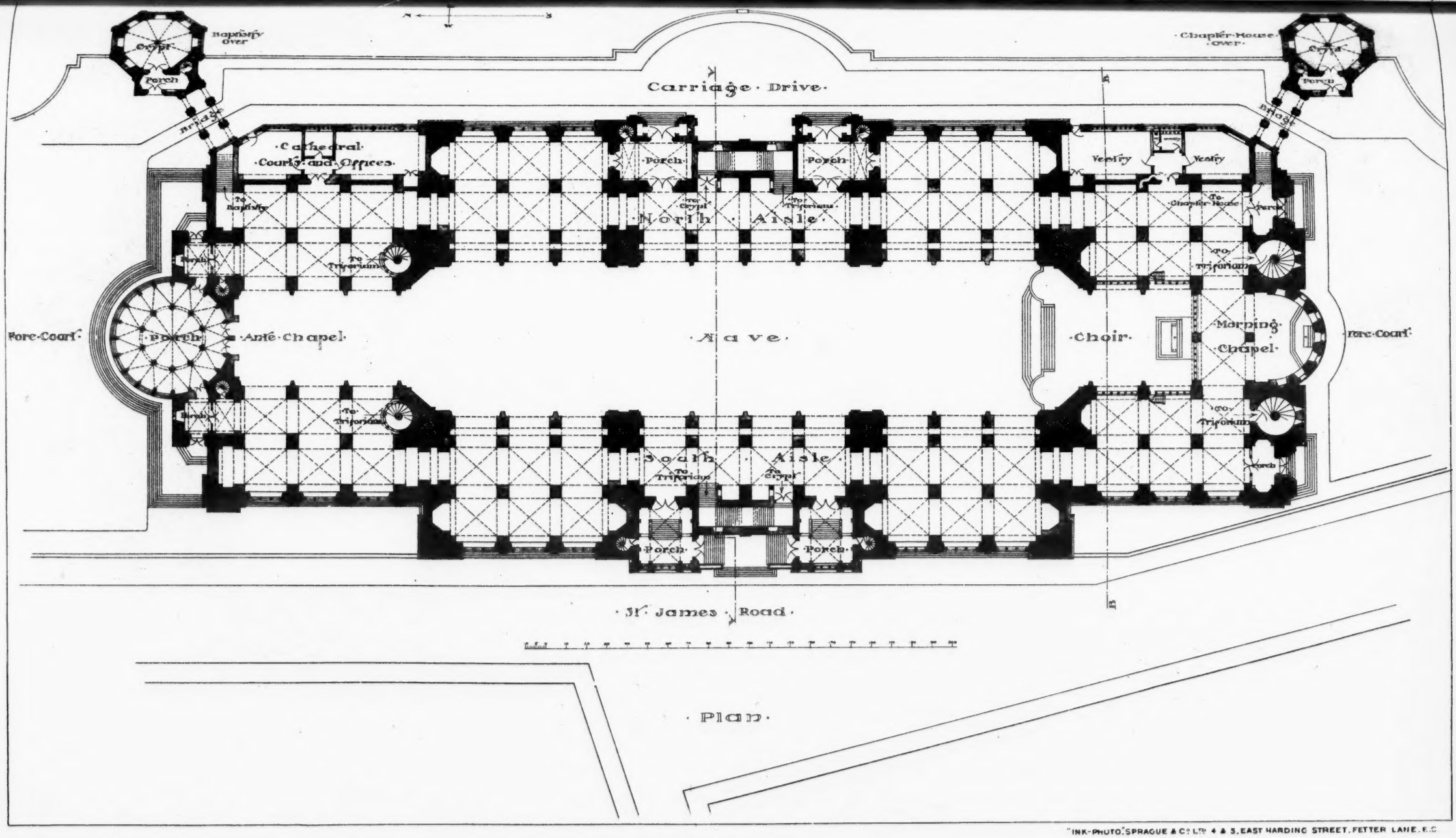
LIVERPOOL CATHEDRAL. A SKETCH DESIGN (No. 38 IN THE LIVERPO

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

E LIVERPOOL CATHEDRAL COMPETITION).—By Mr. Leonard Stokes, F.R.I.B.A.



Longitudinal Section
Looking "North"



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